

LEATH & ROSS'S HOMEOPATHIC PHARMACIES, 9 VERE STREET, W., And 5 ST. PAUL'S CHURCHYARD, E.C., LONDON.

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As it appears open.



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THE NEW FAMILY CHEST

Contains 28 Bottles of the most useful Homeopathic Medicines, a Guide, giving the treatment of all common complaints, the uses of the Medicines, proper doses, &c. In the lid are the two externals most in use, viz., Arnica and Calendula. It can be fitted to hold either Pilules or Tinctures.

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GLOBULES—Medicated any strength up to the 30th potency.

Sixpenny Tubes, 3/- per dozen.

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Shilling „ 6/- „

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Ninepenny „ 4/6 „

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PILULES—Medicated to any strength up to the 30th potency

Sixpenny Bottles, 3/- per dozen.

Ninepenny „ 4/6 „

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TRITURATIONS—

Sixpenny Bottles, 4/- per dozen.

Ninepenny „ 4/6 „

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Special quotations for large quantities.

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BERBERINE, 1/1 ₂ , 2/9, 4/6 9/6, 22/, 36/.	NEURALINE, 1/1 ₂ , 2/9, 4/6 9/6, 22/, 36/.
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PHOSPHO-MURE QUININE, or PICK-ME-UP TINCTURE, 1/1 ₂ , 2/9 9/6, 22/.	ODONTALGIC ESSENCE, 1/1 ₂ , 2/9, 4/6 9/6, 22/, 36/.

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ANTISEPTIC TOOTH TINCTURE, 1/1, 1/6, 2/6	8/, 12/, 20/.	HAIR RESTORER, 1/6, 2/6, 4/6 12/, 20/, 36/.

Agents' Counter Cases, £2/2/0, £3/3/0, £4/4/0, £6/6/0, and £10/10/0.

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GREAT REDUCTION IN PRICES.

PETROLEUM VASELINE JELLY.

The Prices of "VASELINE" (Pure) in Bottles, "POMADE VASELINE," and CAMPHOR ICE are REDUCED ONE HALF, the Sizes remaining the Same. "VASELINE COLD CREAM" and other Preparations also Reduced. Send for Revised Price Lists.

The following Articles particularly merit attention, and will be found purer, better, and cheaper than any others of the kind ever offered to Chemists, &c.

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The emollient, antiseptic, and healing properties of Vaseline are well known. These Soaps far surpass any others for their beneficial action on the skin, and are the purest, most delicate, and refined Soaps made. 6d., 9d., and Superfine Toilet Tablets 1s.

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The pleasantest and most effective combination of Tar for all Skin Diseases, and at the same time a delightful toilet article. 6d. and 9d. Tablets.

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For smearing surgical instruments, guns, arms of all kinds, bicycles, household utensils, &c., to prevent rust. 6d. per Box. 4s. per dozen.

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Free from acids and alkalies. Will render the leather durable, soft, and waterproof. Any ordinary blacking polishes over it. 6d. per Box. 4s. per dozen.

"VASELINE" (pure) in Collapsible Tubes.

For shaving, &c. A more convenient shape than bottles or tins for sportsmen and travellers. 6d. each. 4s. per dozen.

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CHEMISTS AND DRUGGISTS.**



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Shop Fittings, Counters, Glass Cases, Desks, Show Stands, &c., &c.,

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2ND JANUARY, 1882,

And will be PRESENTED GRATIS to all Chemists and Druggists, at Home and
Abroad, having accounts open with the Firm.

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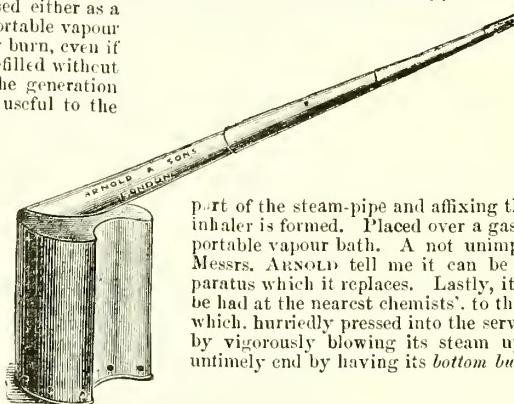
ROYAL
LETTERS PATENT

ARNOLD & SONS'

Patent Vaporifer, Bronchitis Kettle, Inhaler, and Portable Vapour Bath combined.
AS SUGGESTED BY W. L. SHEPARD, M.R.C.S., &c.

Extract from the "LANCET," January, 1879.

"An apparatus which can be used either as a bronchitis kettle and inhaler, or a portable vapour bath, that cannot get out of order or burn, even if allowed to boil dry, that can be refilled without moving from the fire or stopping the generation of steam, is, I think, likely to be useful to the profession, especially at this season. Such an apparatus, which I propose calling the Vaporifer, has been made for me by Messrs. ARNOLD & SONS, of West Smithfield. The woodcut sufficiently explains its very simple construction. It has no bottom, and when in use stands in any ordinary saucepan, so that, should it boil dry, the worst that can happen will be the spoiling of a sixpenny saucepan, easily replaced. The top of the apparatus is closed, and



part of the steam-pipe and affixing the mouthpiece, a very handy and efficient inhaler is formed. Placed over a gas-stove or spirit-lamp, it can be used as a portable vapour bath. A not unimportant advantage is its trifling cost, as Messrs. ARNOLD tell me it can be sold for less than either of the three apparatus which it replaces. Lastly, it packs in a neat, compact case, and may be had at the nearest chemists', to the great saving of the family tea-kettle, which, hurriedly pressed into the service, displays a great deal of useless zeal by vigorously blowing its steam up the chimney, and often comes to an untimely end by having its bottom burned out."

Extract of Letter received from J. F. FINCHETTE, Esq., Portland House, Brunswick Square, W., dated Feb. 18, 1879.

"Vaporifer," all complete, came to hand safely on Saturday last, with thanks, and I consider it a marvel of cheapness and utility, and wish Dr. SHEPARD all success with his invention, which, I feel assured, only needs to be known to be appreciated. I have tried it for each of the purposes for which it is intended, and found it answer completely."

Trade Price, 42s. per doz. Retail Price, 5s. With Lamp, Saucepan, and Stand complete, 63s. per doz. Retail Price, 7s. 6d.

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ARNOLD & SONS, Instrument Makers,

By Appointment, to Her Majesty's Government, St. Bartholomew's Hospital, and the Principal Provincial and Colonial Hospitals, &c.,

35 & 36 WEST SMITHFIELD, LONDON, E.C.

CONDY v. MITCHELL.

(MITCHELL is the person now Trading as THE CONDY'S FLUID COMPANY.)

The Defendant having published certain advertisements in which judgments unfavourable to the Plaintiff in the above suit have been paraded, the following Extract from the Judgment of Vice-Chancellor BACON in respect to an issue arising out of the litigation is given as a contrast. Application was made to commit Mitchell for Contempt of Court. According to the report of Mr. W. H. COUNSELL, shorthand writer, 24 Chancery Lane,

THE VICE-CHANCELLOR SAID:—

"With respect to MITCHELL, there is not a shadow of excuse for what he has done; on the contrary, as might be expected, there has been a submission and an apology by him, accompanied by a protestation that 'he did not think he was doing anything wrong.' Therefore, in my opinion, so far as MITCHELL is concerned, it is an undefended case, only made worse by the sort of lame excuse which is offered, together with the apology, which I dare say is sincere enough, because a man, when he has done wrong, is always ready to give an excuse for what he has done when he is convicted."

PRIZE MEDAL,



LONDON, 1862.

PRIZE MEDAL,



PHILADELPHIA, 1876.

NOTICE TO THE TRADE.

NOVEMBER, 1881.

LOW'S FLOWER EXTRACTS, &c.,

ARE NOW REDUCED IN PRICE, AS BELOW:—

	per lb.		per lb.		per lb.
Ext. Cassie	9/6	Ext. Rezeda	9/6	Ext. Tubereuse	9/6
" Jasmin	9/6	" Rondeletia	8/-	" Violet	15/-
" Jonquil	9/6	" Rose	9/6	" Verbena	8/-
" Lily of the Valley ...	9/6	" Rose Geranium ...	9/6	" White Rose	10/6
" Magnolia	9/6	" Spring Flowers ...	9/6	" White Lilac	9/6
" Orange Flower ...	9/6	" Stephanotis	9/6	" Wood Violet	13/6
" Patchouli	9/6	" Sweet Briar	9/6	" Wild Rose	9/6
" Queen of the Alps ...	9/6	" Tea Rose	9/6	" Ylang Ylang ...	9/6

These Extracts have always had the highest reputation; they are all of our own manufacture, are guaranteed **PURE**, and of **TRIPLE STRENGTH**, and will compare favourably with any in the Trade.

N.B.—Owing to the failure of the **VIOLET** crop in 1880, however, this Extract is advanced in price, and will probably remain high for some time. Purchasers are warned against the spurious Ext. Violets already in the market.

LOW'S COMPOUND PERFUMES,

For Dilution by the Trade, are the Strongest in the Market, viz.:—

ESS. BOUQUET, JOCKEY CLUB, & FRANGIPANNI.

Price 14/- per lb.; or 13/- in Winchester Quarts.

LOW'S NURSERY SOAP.

This Soap is the result of considerable study and many experiments, the object desired being to produce a **SOAP** that would be **quite neutral**, and thus innocuous to the most tender skin, yet one that would lather freely, and not waste quickly away.

Price 33/- per Gross; or 11/- per doz. Boxes of 4 Tablets.

FAMILY BROWN WINDSOR SOAP,

At 60/- per cwt., *Genuine, and Sweetly Perfumed.*

This Soap is recommended to the Trade as the best value that can be obtained. Embossed Squares, 6 to lb., and in 14-lb. Boxes. Also in Tablets, 3 to lb., 2/- per dozen, in 3-dozen Boxes.

Discount, 10 per Cent. Cash at a Month, or 5 per Cent. payable on Journey.

R. LOW, SON & HAYDON,

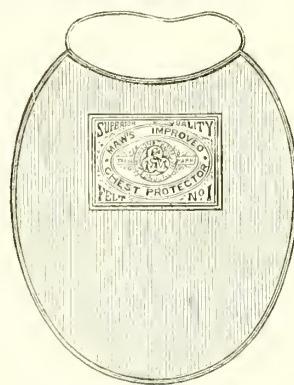
Perfumers, Toilet Soap Makers, and Brush Manufacturers,

330 STRAND (OPPOSITE SOMERSET HOUSE) LONDON.

FELT CHEST PROTECTORS.

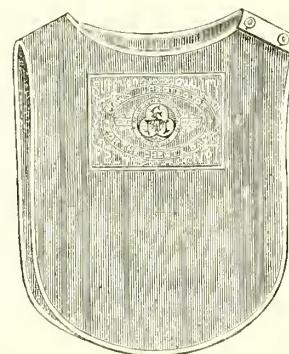
SINGLE.

No.	Per Doz.
	s. d.
1 ...	7 6
2 ...	9 6
3 ...	11 6
4 ...	14 0
5 ...	20 0



DOUBLE.

No.	Per Doz.
	s. d.
1 ...	17 0
2 ...	22 6
3 ...	28 0
4 ...	34 0
5 ...	45 0



All Scarlet, or assorted Scarlet and White.

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EARTHENWARE INHALER, EARTHENWARE INHALER,

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With Elastic Tube and extra Glass Mouthpiece, 54s. per dozen.



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EARTHENWARE INHALER, EARTHENWARE INHALER,

60s. per dozen.

Ditto, with Elastic Tube, 78s. per dozen.

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TRADE NOTICE.

TO PREVENT DISAPPOINTMENT

S. MAW, SON & THOMPSON

Beg to inform the Trade that their

ESTABLISHMENT WILL BE CLOSED

On SATURDAY and MONDAY, 24th and 26th inst.,

FOR THE

CHRISTMAS HOLIDAYS;

AND ALSO

On FRIDAY and SATURDAY, the 30th and 31st inst.,

FOR THE PURPOSE OF STOCK-TAKING.**7 TO 12 ALDERSGATE STREET, LONDON.**

December 15th, 1881.

**THE CHEMISTS'
SIXTEENTH ANNUAL BALL.**

WILLIS'S ROOMS, KING STREET, ST. JAMES'S.

WEDNESDAY, JANUARY 18TH, 1882.

STEWARDS :

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 W. R. BARKER
 F. BARROW
 M. W. BELL
 W. SCOTT BROWN
S. M. BURROUGHES
 W. BUSH, Jun.
 J. C. CAPE
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G. BAGGETT FRANCIS
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 E. HORNER, Jun.
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 CHARLES HUNT
 J. H. JAGG
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DR. KERNOT
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CLIFFORD PROBYN
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Applications for Tickets, which must be accompanied by a Remittance, must be made to the following:—
 RICHARD BREMRIDGE, 17 Bloomsbury Square, W.C.
 E. N. BUTT, 13 Curzon Street, W.

GEORGE CAWDELL, 12 London Street, Paddington, W.

T. GREENISH, 20 New Street, Dorset Square, N.W.

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JOHN F. SAVORY, *Hon. Secretary*, 143 New Bond Street, W.

ATTENTION IS DRAWN TO THE FOLLOWING RESOLUTION OF THE COMMITTEE:—

"That with a view to further secure the comfort of those present at the Ball, and to prevent the possibility of overcrowding, the number of Tickets be strictly limited to 350, and that all applications for Tickets be accompanied by a remittance."

TICKETS: LADY'S, 12s. 6d.; GENTLEMAN'S, 17s. 6d.—including Refreshments, Supper, and Wine.

MR. DAN GODFREY'S BAND.

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WORKS BY DR. DOBELL

Consulting Physician (late Senior Physician) to the Royal Hospital for Diseases of the Chest, &c.

Just published, a New and Enlarged Edition, carefully Revised and Annotated, with Coloured Plates,

ON Loss of Weight, Blood-Spitting, and LUNG DISEASE. To which is now added Part VI., on the FUNCTIONS and DISORDERS of the LIVER, and their Management in accordance with the Results of Modern Discovery.

Affections of the Heart and in its Neighbourhood. Cases, Aphorisms, and Commentaries. Illustrated. Second issue.

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DR. JOHN MUTER, M.A., F.I.C., F.C.S., &c.

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The Tutorial Class for February examination is now in progress, and may be joined by those already possessing sufficient knowledge up to December 1st.

Students should remember that the instruction is so systematic, and the practical work both in the Laboratory and Dispensary so extended, that success is now rendered almost certain.

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ECONOMY.—Pages 149, 150: "Freedom of Trade is essential for the world to derive the benefit of capital employed by distributors, and nature trusts to the desire of acquisition of this class to search out and find markets for the goods that each nation makes the cheapest, or makes, or has (as in the case of wheat, &c.), more than is required. This class are the men who are said by nature's law to buy in the cheapest, and sell in the dearest markets—a remark often sneered at, but full of wisdom—an edict of the 'Divine Economist,' who trusts to the instincts implanted in man, and who made those instincts so admirably adapted for his use—latent power ready, as 'necessity' arose, to be developed for his help. To buy in the cheapest, this means that this class of capitalists are always on the look-out to buy and export or import the 'cheapest goods in every market of the world'; and that means not only gratifying the selfish desire of buying an article at its lowest price, but, to my mind, this instinct was intended by the Creator 'to relieve those markets where there was an abundance'—that is, where it will be naturally the cheapest unless man interferes with his foolish law of protection to native industry—the most untrue, as the most selfish and unnatural doctrine that man ever enunciated, utterly opposed to the Divine will, as it is to man's benefit. The instinct that leads to the buying in the cheapest naturally causes the desire to find the 'dearest market to sell in'; and herein we see the same wonderful wisdom displayed by the Creator and Governor of the Universe. The dearest market for an article is 'the market where an article is wanted, where there is a supply unequal to the demand for it.' And so you see, in this simple way, the natural laws are so beautifully arranged that, if not interfered with, man is prompted, for his own benefit, to search out those places where there is an excess of a commodity, and have it taken to another place where there is a deficiency thereof. If men would but think on the 'supply and demand' idea, would but rise equal to its grand lesson, would see in it what is so clearly to be seen, that, in studying 'the good of all,' we are taking the surest means of securing the 'best for each,' how different this world would be! Instead of doing this, we find man trying to oppose nature, and we at once descend from the sublime to the ridiculous."

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ECONOMY.—Pages 156, 157: "Free trade is natural, protection is cruel and unnatural. For the peace and prosperity of the world it is necessary that the nations trade together; for the people of every nation to enjoy the best that the world in its entirety offers, it is necessary that the economic laws be followed by each in 'production and

distribution.' Free trade opens all ports, welcomes from every land what it has to spare, and gives in exchange what it has an excess of. Free trade means 'peace and plenty' for all men, 'each part of the world fully occupied in supplying to the other parts what they are in need of, and taking in exchange what it is short of. It makes of the world one market, free and open to receive the products of each and all,—all wisely engaged in producing what nature has enabled them to produce the most efficiently and economically, and exchanging the surplus of each with one another. It may seem a dream, but, to me, on obedience to this 'economical' law rests the salvation of the race; the misery, jealousy, antagonism, supplanted by plenty, mutual emulation; each trying to do his best, happy in what he is doing, as it would be natural and satisfactory; one and all throughout the world engaged in producing and distributing in the manner most conducive to the prosperity and happiness of all."

ECONOMY.—Pages 136, 137: "All duties counteract the operation of nature's arrangements to bring prices down to the lowest; they are an artificial impediment put up by selfish men to the Creator's liberal supply of good things for all men. The action of duties is to enhance prices, that is to say, to limit their use to the privileged few, when God wanted His bounty to reach all of us. Stripped bare and viewed in their hideous nakedness, protection, reciprocity, retaliation, 'fair trade,' mean putting a burden upon all consumers putting a tax upon, taking out of the pockets of the majority a summeting to prop up in an artificial and 'unnatural' manner an industry by the minority that, left alone, cannot sustain itself—is not worth in fact, in the open market of the world what it has cost to produce. If this be true, it is in defiance of all economic laws, it is in defiance of what any individual can do long without becoming bankrupt. It follows, therefore, inevitably that if followed by nations it is equally unwise economically, and should he opposed with heart and soul by all patriots and statesmen."

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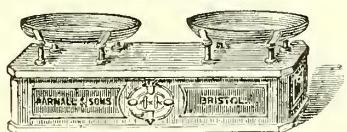
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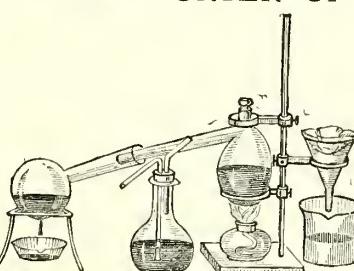
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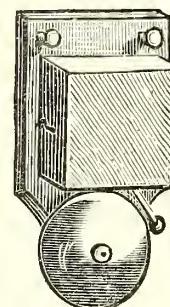
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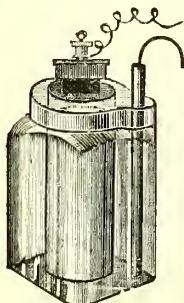
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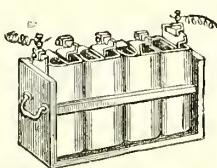
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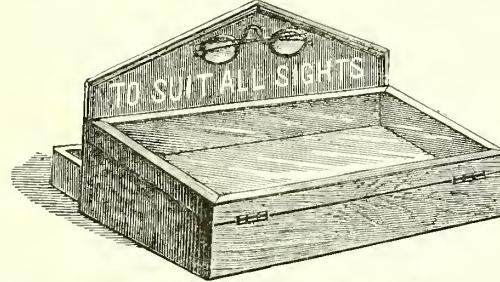
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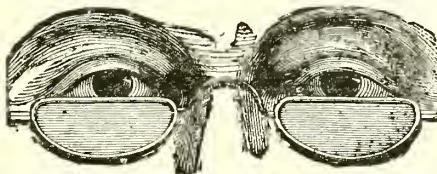
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INDEX TO ADVERTISEMENTS,

See pages 21, 22.

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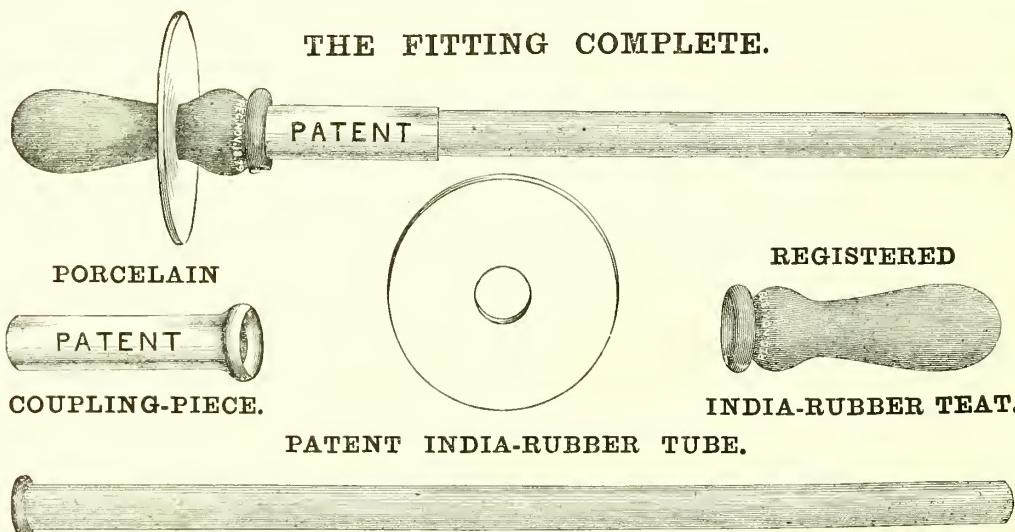
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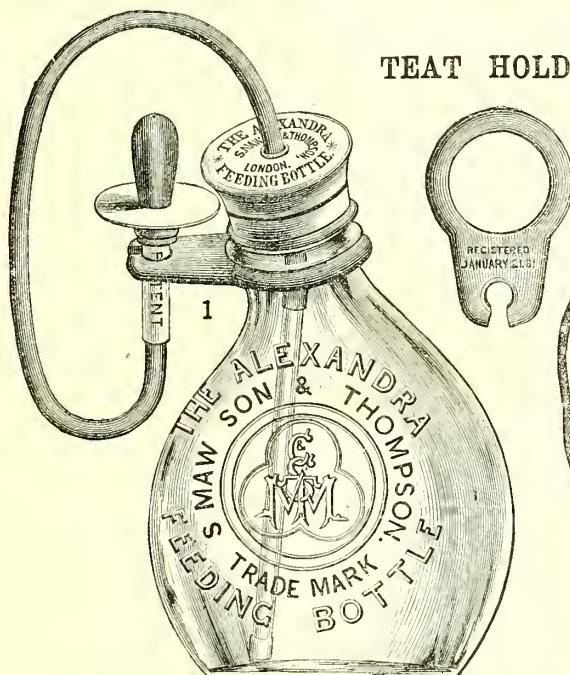
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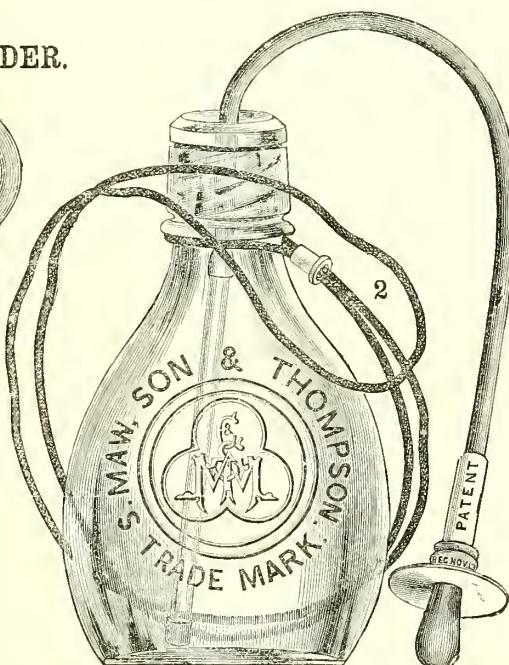
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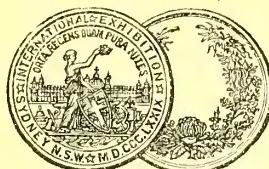
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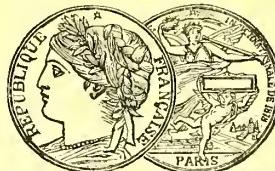
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Index to Advertisements.

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ACETIC ACID

Dunn and Co..... 84

AERATED WATER PLANT

Barnett and Foster..... 48, 108
Barrett and Elers (Bottles)..... 49
Brathy and Hinchliffe..... 54
British Syphon Co..... 55
Codd's (Bottles)..... 104
Davenport and Co..... 48
Favarger, H..... 49
Tyler, Hayward, and Co..... 47
Vallat, L. (Bottles)..... 55
Wilcocks, N. G..... 49, 54

AERATED & MIN. WATERS

Chemists' Aerated and Mineral Waters Association..... 52
Cuff, J. H..... 53
Ellis, R., and Son..... 52
Gallais and Co..... 536
Gulliver, S., and Co..... 50
Farrington, A. C. (Shelfanger Constitutional Waters)..... 50
Harrison, W. B..... 50
Harrison and Co..... 50
Hay, W. (Ginger Champagne)..... 47
Huynadi Janos..... 50
Ingram and Royle..... 108
Jewsbury and Brown..... 53
Mills, R. M., and Co..... 47
Ross, W. A..... 52
Schweppes and Co..... 533
Skinner, G. H. (Phosphodone)..... 56
Taylor, T. and F. J..... 52
Zoedone..... 57

AGENCIES ABROAD

Ball, Hobson and Co. (Umballa)..... 71
Bathgate and Co. (Calcutta)..... 71
Bickford, A. M., and Sons (Adelaide)..... 71
De Caycedo, G., & Co., Bogota, S.A..... 71
Evans, H. Sugden, and Co. (Montreal)..... 73
Faulding, F. H., and Co. (Adelaide)..... 71
Felton, Grimwade and Co. (Melbourne)..... 73
Heynes, Mathew and Co. (Cape Town)..... 71
Jones, E. B. (Invercargill)..... 71
Kempthorne, Prosser and Co., Limited (Auckland and Dunedin)..... 72
Lennon, B. G., and Co. (Port Elizabeth)..... 71
Plomer, E., and Co. (Simla and Lahore)..... 71
Symes and Co. (Simla)..... 71

ALMANACS

Silverlock, H..... 15

ASSISTANTS

Wanted..... 25

BARYTA SALTS

Huisken, J., and Co..... 55

BATH GLOVES

Livermore, J..... 42

Snook, G. F., and Son..... 42

BOOKS

Chemical Gazette..... 73
Goold's Dr. Works by Goddard's Price..... 10
Goddard's "Aerated Waters"..... 12
Holden, A., Medical Bookseller..... 10
Ince's Latin Grammar of Pharmacy..... 10
Kilner's Drugists' Formulary..... 14
Kimpton, Medical Bookseller..... 10
Muter's Dr. Works..... 10
Platt's, James, Works..... 11
"Students' Aid"..... 12

BORAX

Patent Borax Co..... 65

BOTTLES

Bagley, Wild and Co..... 94

Brooks, H., and Co..... 29

De Luca, G. V..... 64

Glasgow Apothecaries' Co..... 94

Kilner Bros..... 95

Lumb's and Co..... 94

M'Lachlan, J., and Co..... 94

Poths, H., and Co..... 96

BOXES

Horsley and Floyd..... 55

Metz, P..... 33

Smith, C., and Sons..... 104

Tin Plate Decorating Co..... 104

BUSINESSES FOR DISPOSAL

[24, 25]

CAMPHOR

May and Baker..... 2

CAPSULES

Denoual, J..... 86

CHAULMOOGRA OIL

Corby, Stacey and Co..... 80

CHEMICALS

Hofmann and Schoetensack..... 78
Huisken, Julius, and Co..... 55
May and Baker..... 2
Newton, Keates and Co..... 84
North British Chemical Co..... 84
Polglase, F. J. W..... 55
Schering..... 85
Zimmermann, A. & M..... 85

CHEMISTS' BALL

Notice 9

CHEST PROTECTORS

Bourne and Taylor..... 19
Haywood, J. S..... 97
Lynch and Co..... 107
Maw, S., Son and Thompson..... 8
Pattison, G..... 27
St. Dalmas, A. D..... 97
Savar's..... 33
Snook, G. F., and Son..... 42

CHLORODYNE

Davenport, J. T..... 89

Towle, A. P..... 75

CHLOROFORM

Duncan, Flockhart and Co..... 93

Macfarlan, J. F., and Co..... 93

Schering..... 85

CHRISTMAS HOLIDAYS

Maw, S., Son, and Thompson..... 9

COCOA AND CHOCOLATE

Cadbury Bros..... 108

Epps, G., and Co..... 61

Fry, J. S., and Sons..... 60

Liebe, J. Paul..... 64

Phillips, E. A., and Co..... 65

COD LIVER OIL

Allen and Hanbury..... 106

Carr, W. G., and Son..... 75

Smith, T. J..... 77

Southall Bros. and Barclay..... 68

Woolley, J., Sons and Co..... 94

COFFEE

Chamberlin Manufacturing Co. (Dandilion)..... 536

Mawer's Taraxacum..... 63

Philips and Sons (Dandelion)..... 60

Pure Food Co. (Extract)..... 65

COLLAPSIBLE TUBES

Brooks, H., and Co..... 29

CONCENTRATED WATERS

Robinson, B..... 32

CORN CURES

Antakos Company..... 34

Hargrave, J., and Son..... 34

Robinson, B..... 32

Savar's..... 33

Snook, G. F., and Son..... 42

CRUCIBLES

Patent Plumbago Crucible Co..... 35, 66

DENTIFRICES

Beddoe, J..... 41

Coffin, Dr..... 36

Jewsbury and Brown..... 41

Maw, S., Son and Thompson..... 49

Millard, Son and Appleton..... 38

Woods, W..... 41

DENTISTRY

Buck, F..... 55

Matthews..... 26

DISINFECTANTS

Condy, H. Böllmann..... 6

Condy, H., and Co..... 103

Condy's Fluid Co..... 78

National Chemical Company..... 100

DOG BISCUITS

Spratt's Patent..... 100

Tipper, B. C., and Son..... 101

DRUGGISTS' SUNDRIESMEN

Baiss Brothers..... 82

Bourne and Taylor..... 19

Lynch and Co..... 79, 107

Maw, S., Son & Thompson 5, 8, 9, 16, 17, 31

[37, 40]

Savar..... 33, 74

DRUG MILLS

The Enterprise..... 67*

DYES

Crawshaw, E., and Co..... 42

Sands Manufacturing Co..... 32

EARTHENWARE GOODS

De Luca, G. V..... 64

Insole, E. S..... 16

Potts, H., and Co..... 96

EAU DE COLOGNE

Farina Johann Maria..... 28

ELECTRIC BELLS

Darton, F., and Co..... 15

Orme and Co..... 13

ENEMAS

Centreton, J..... 26

Ingram and Son..... 97

Lynch and Co..... 79

ENGINES

Crossley Bros. (Gas)..... 46

ESSENTIAL OILS

Bush, W. J., and Co..... 51

Fratielli de Pasquale and Co..... 73

Rabeck, H. (Oil of Cloves)..... 72

Symes (Oil Lavand. Rect.)..... 86

ETHER

May and Baker..... 2

Polglase, F. J. W..... 55

Robbins and Co..... 96

EXTRACT OF MEAT

Australian Meat Co..... 65

Brand and Co..... 63

Delacre's..... 23

Nelson, G., Dale and Co..... 62

Pure Food Co..... 65

Valentine's..... 81

FEEDING BOTTLES

Bourne and Taylor..... 19

Edmunds, J., "Ne Plus Ultra"..... 42

Kilner Bros..... 35

Maw, S., Son and Thompson..... 16, 17

Savar's..... 33

FILTERS

Silicified Carbon Filter Co..... 52, 53, 59

FLAVOURING ESSENCES

Bush, W. J., and Co..... 51

May and Baker..... 2

FOOD, INFANTS' & INVALIDS

Corbyn, Stacey and Co..... 81

Lloyd, J. and C., and Co..... 60

Nestlé's Pure Food Co..... 62

Otteli's Swiss Milk Food..... 61

Pure Food Co..... 65

Savory & Moore..... 68

FRUIT SYRUPS

Beckett, W..... 50

FULLER'S EARTH

Blackwell, G. G..... 36

GINGER ESSENCE

Bush, W. J., and Co..... 51

Hay, W..... 51

GLYCERINE

Hofmann and Schoetensack..... 78

Sarg's, F. A., Son and Co..... 39

Schering's..... 85

GRANULAR PREPARATIONS

MacKay, J., and Co..... 78

GUM EXTRACT

Bush, W. J., and Co..... 51

GUMS

Morrison and Thew..... 45

HAIR PREPARATIONS

Brodie Golden..... 38

James's Herbal Pomade..... 34

Leath and Ross..... 3

Robare's Aureoline..... 34

Rogers' Hair Lotion..... 34

HOMEOPATHIC MEDICINES

Butcher, W., and Co.	41
Gould, E., and Son	3
Leath and Ross	3
Thompson and Capper	41

HONEY

Kemp, W.	38
----------	----

HOSPITALS

Loudon Homeopathic	2
--------------------	---

ICE

Harrison, W. B.	50
-----------------	----

INHALERS

Maw, S., Son and Thompson	8
---------------------------	---

INK

Draper's Dichroic	68
-------------------	----

Duncan, Flockhart and Co.	93
---------------------------	----

INSECT FLOWERS

Neumann, J., Fiume, Austria	103
-----------------------------	-----

Oldfield, Pattison and Co.	32
----------------------------	----

IODINE

North British Chemical Co.	84
----------------------------	----

Schering	85
----------	----

KOUMISS

Aylesbury Dairy Co. (Lim.)	41
----------------------------	----

LAVERDINE DISTILLERS

Perks and Llewellyn	26
---------------------	----

LEECHES

Fitch and Nottingham	64
----------------------	----

LINSEED

Mumford, G. S.	596
----------------	-----

Kemp, W.	38
----------	----

LOZENGES

Allen and Hanburys	106
--------------------	-----

Craven, M. A., and Son	64
------------------------	----

Gibson, R.	64
------------	----

Metz, P.	38
----------	----

Miles Doughty's	69
-----------------	----

Randall and Son	64
-----------------	----

Towle, A. P.	75
--------------	----

MAGNESIA	86
----------	----

Dunmord and Co. (Fluid)	86
-------------------------	----

MALT EXTRACTS

Evans, J.	75
-----------	----

Hoff, Johann	75
--------------	----

Hoff, M. and L.	76
-----------------	----

Kepler Co.	67*
------------	-----

Liebe, J. Paul	64
----------------	----

Loeflund, E.	77
--------------	----

Maltine	76
---------	----

Trommer's	77
-----------	----

MARKING INKS	34
--------------	----

Baumbridge and Pond (A.E.I. Ink)	35
----------------------------------	----

Daughter of J. Bond	35
---------------------	----

Letchford and Co.	35
-------------------	----

Maw, S., Son and Thompson	35
---------------------------	----

Millard, Son and Appleton	38
---------------------------	----

Murphy, J.	34
------------	----

MATCHES	43
---------	----

Bryant and May	43
----------------	----

MEASURES, GRADUATED

Toogood, Wm.	96
--------------	----

MILK PREPARATIONS

Aylesbury Dairy Co.	61
---------------------	----

MISCELLANEOUS ADVENTS

MIXING MACHINES	26
-----------------	----

Bracher, P. H., and Co.	64
-------------------------	----

MORPHIA

Macfarlan, J. F., and Co.	93
---------------------------	----

MUSK

Symes and Co. (Simla)	71
-----------------------	----

MUSTARD

Finch, Rickman and Co.	63
------------------------	----

NAPHTHA

Clerc, Léon	44
-------------	----

NAPHTOLUM

Kunheim	18
---------	----

Hofmann and Schoetensack	78
--------------------------	----

OINTMENT BASES

Allen and Hanburys (Chrisma)	103
------------------------------	-----

Chesbrough Co. (Vaseline)	4
---------------------------	---

Evans, Sons and Co. (Fossiline)	66
---------------------------------	----

Ewen, J. (Clarified Lard)	34
---------------------------	----

PAINTS AND VARNISHES

Allen, R. J. (Gold Paint)	45
---------------------------	----

Colthurst and Hardinge	66*
------------------------	-----

Jackson, T. S.	45
----------------	----

PENS

Gillott, Joseph	98
-----------------	----

PEPSINE AND PEPTONE

Bondault Hottot	73
-----------------	----

Bullock, J. L., and Co.	84
-------------------------	----

Finzelberg	85
------------	----

PATENT MEDICINES

Beecam Pills	91
--------------	----

Chamberlain Manufacturing Co.	58
-------------------------------	----

Cobden's Pills	104
----------------	-----

Collis Browne's Chlorodyne	89
----------------------------	----

Dental Wonder, The	90
--------------------	----

Digestine	26
-----------	----

Evan's Styptic	75
----------------	----

Fennings' Children's Powders	108
------------------------------	-----

George's Pile and Gravel Pills	90
--------------------------------	----

Hawks' Neuralgic Mixture	88
--------------------------	----

Holloway's Pills and Ointment	90
-------------------------------	----

James' Herbal Ointment	34
------------------------	----

Kaye's or Tordell's Pills	90
---------------------------	----

Lindley's Phosphodine	89
-----------------------	----

Miles Doughty's Lozenges	69
--------------------------	----

Osborne's Golden Drops	88
------------------------	----

Roberts and Co. (Foreign)	70
---------------------------	----

Stedman's Teeth Powders	536
-------------------------	-----

PERFUMERY, FANCY SOAPS

Bristol, T. F., and Co.	39
-------------------------	----

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TRAVELLER.—A Gentleman, well known in the Trade, and of business habits, is open to represent a first-class Drug House. Age 40. "Commercial," Office of THE CHEMIST AND DRUGGIST, 44a Cannon Street.

AS MANAGER of a Branch or otherwise, by a gentleman of experience; good address. M.P.S., 2 Macleod Road, West Kensington Park, London, W.

DY A GERMAN ASSISTANT, speaking also French; thoroughly educated and highly recommended; country or seaside not objected to; salary no object for the first. Messrs. W. Scracht & Co., 26 Finsbury Pavement, London, E.C.

AN A.P.S. with small capital is anxious to undertake a working Partnership with an elderly gentleman, or one wishing partial retirement, in view to succession. Age 35; has had first-class experience in town and country; twelve years in present position. Address, Socius, care of Messrs. Herring & Co., 40 Aldersgate Street, E.C.

MISCELLANEOUS.

CHEMIST'S MAHOGANY FIXTURES, BOTTLES, &c. Complete, almost equal to new; small saleable well-selected stock in good condition; very suitable to one about to commence business; will be sold very much under cost; owner going abroad. Mr. Sweetman, Chemist, Wigan, Lancashire.

FOR DISPOSAL.—Chemist's Stock (light mixed retail) and Fixtures in Market Place, Boston, Lincolnshire; fixtures only been in use 5 years; purchaser has the option of taking premises or removing stock and fixtures. For particulars apply to Mr. C. Lucas, 8 Bridge Street, Boston.

TO CHEMISTS COMMENCING OR MAKING ALTERATIONS, write for R. Tomlinson's List of New and Secondhand Fittings, and say size of shop and kind of fittings required, and you will fit a new shop as cheap as a common secondhand one by R. Tomlinson, Druggists' Shop Fitter and Valuer, 15 St. Paul's Square, Birmingham. A large stock on hand of all kinds.

TENDERS are invited for the Stock, Fixtures, and Goodwill (as a going concern) of the old-established business conducted for the past 7 years by Mr. R. Jackson, 52 Bridlesmith Gate, Nottingham. Gentlemen intending to tender may view the premises and obtain all information by applying to the proprietor, who is leaving the trade. Tenders to be sent on or before January 14, 1882, to Mr. Frank White, Chemist, Nottingham.

TO THE DRUGGISTS' SUNDRIES TRADE.—Advertiser desires to establish an Agency in Birmingham representing Good Houses in London, in the various departments in the Sundries Trade; is practically acquainted with the trade departments, and has had 30 years' experience; travelled and well known in various parts of England. Birmingham now requires a good Agent in this trade, and to London Manufacturers this would prove a certain success. Principals or their Solicitors treated with confidentiality. Address M. A., Hawley's Hotel, Newhall Street, Birmingham.

**FINZELBERG'S
PEPSINE PORCI, P.B. OR P.G.
THE MOST RELIABLE & ALWAYS
UNIFORM.**

See "BRITISH MEDICAL JOURNAL,"
July 30th, 1881.

Apply to all Wholesale or Retail Chemists and Druggists.

NOTICE TO INVESTORS. **DIGESTINE.**

The New and Unfailing Remedy for all forms of INDIGESTION.

A small limited Company has been formed to purchase the Patent Rights of this Medicine and the Goodwill of the Business, &c. The purchase has been effected on terms highly advantageous to the Company, and the returns upon the capital are expected to be very large. Further particulars, with prospectuses, &c., will be forwarded on application to the Secretary, at the Office and Dépôt, 34 Southampton Row, Holborn, London, W.C.

JAMES C. CHUBB CONTINUES TO SUPPLY

BEST SEIDLITZ POWDERS,

Loose, at 7s. per gross, and in boxes at 8s., 9s., and 10s. per doz.; Extracted Violet Powder, prepared with wheat starch, in 1d. boxes, 7s. per gross, 2d. boxes, 14s. per gross, 1-lb. packets, 2s. 6d. per doz.; Prepared Fuller's Earth, in 1d. boxes, 7s. per gross, 2d. boxes, 14s. per gross, and 1-lb. boxes, 2s. per doz., through the Wholesale Houses, or from 29 OLD STREET, LONDON, E.C.; and will forward list of articles packed by him on application.

MECHANICAL DENTISTRY.

THE most PERFECT FIT and HIGHEST FINISH, with Punctuality, may be relied on in all Work entrusted to

**Mr. MATTHEWS,
60 OLDHAM ST., MANCHESTER,**

Who has had Thirty Years' Experience in every branch of Dental Workmanship. The most Moderate Scale of Charges possible to ensure Good Work and Best Materials. *Price List on application.*

HIGGINSON'S ENEMAS,

BEST QUALITY, with Elastic Vagina Pipe and Shield, and Bone Rectum Pipe, in Slide Cedar Boxes.

Quarter-dozen to any City Drug House for enclosure, on receipt of P.O.O. for 7s.

SPECIAL QUOTATIONS FOR QUANTITIES.

**JOHN CENTRETON,
27 NILE STREET, CITY ROAD, LONDON, N.**

**TINFOILS,
METAL CAPSULES
VEGETABLE PARCHMENT.**

C. F. BROWN & CO., 3 Tower Royal, LONDON, E.C.

NOTICE.

**PERKS & LLEWELLYN,
CHEMISTS,
CULTIVATORS AND DISTILLERS OF LAVENDER,**

BEG TO INFORM THE TRADE generally that their ONLY and SOLE ADDRESS is

HIGH STREET, HITCHIN,

And that they are not connected with any other firm of the same name.

1881.

FIFTEENTH SEASON.

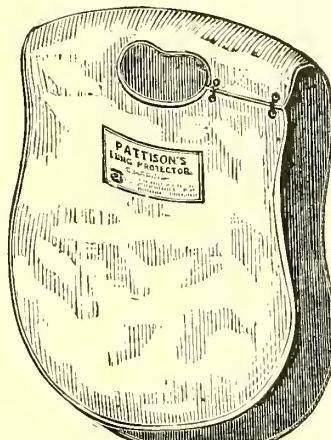
THE

LUNG PROTECTOR

(REGISTERED).

"An Article of Acknowledged Excellence."

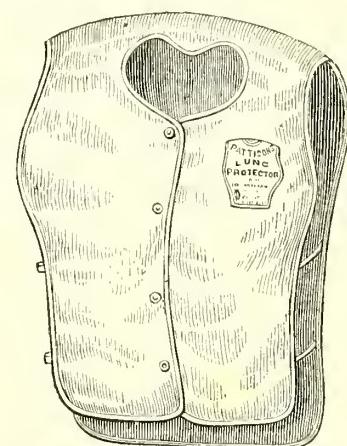
The "LUNG PROTECTOR" continues to be made only from the same Fine Soft Wool which has always been used since its introduction 15 years ago. Chemists are cautioned against the mendacious assertions of unscrupulous persons who push upon them coarse and inferior imitations, the sale of which can only lead to ultimate loss of trade.



THE LUNG PROTECTOR.
ORIGINAL PATTERN.



LUNG PROTECTOR.
THE AMERICAN.



LUNG PROTECTOR.
THE CANADIAN.

PRICES :

	No. 0	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	per doz.
Original Pattern, Seven sizes	14/-	18/-	26/-	34/-	42/-	52/-	60/-
The American, Six sizes	20/-	28/-	36/-	44/-	54/-	62/-
The Canadian, Six sizes	22/-	30/-	40/-	50/-	60/-	70/-

FELT CHEST PROTECTORS.

	No. 00	No. 0	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	per doz.
Prices...	4/-	6/-	8/-	10/-	12/-	16/-	20/-	24/-

All in Scarlet and White, and made in same Wool as the "Lung Protector."

FELT CHEST PROTECTORS, C QUALITY, single and double, each in five sizes.

At lower prices than above, and equal to best of other makers, but are not recommended.

GEORGE PATTISON,

INVENTOR AND MANUFACTURER,

139 ST. JOHN STREET ROAD, LONDON, E.C.

REGISTERED
LUNG
PROTECTOR
TRADE MARK

EAU DE COLOGNE

OF THE MOST ANCIENT DISTILLER,

JOHANN MARIA FARINA,

Opposite the Julichs Place, COLOGNE.

ESTABLISHED A.D. 1709.

PRIZE MEDALS:—LONDON, 1851 AND 1862; OPORTO, 1865; PARIS, 1867; VIENNA, 1873.

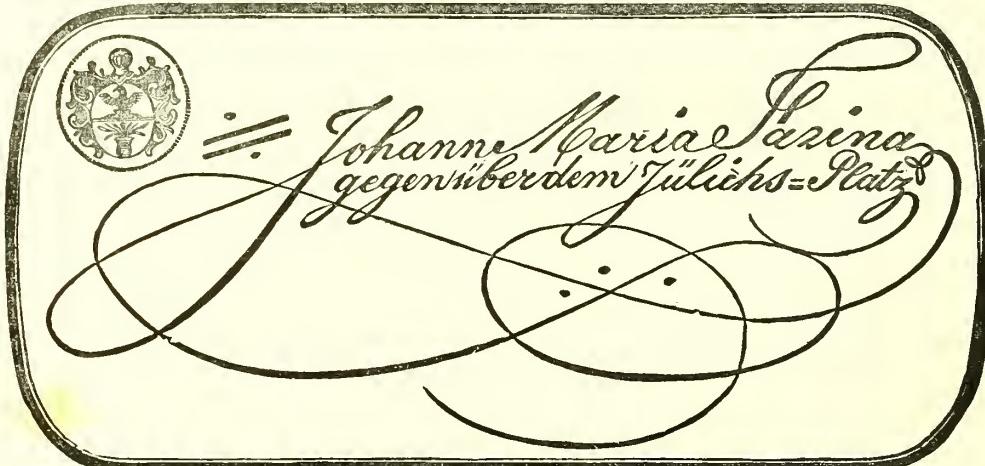
By appointment, Sole Purveyor to Her Most Gracious Majesty Victoria, Queen of Great Britain & Ireland; Their Royal Highnesses the Prince and Princess of Wales; William, King of Prussia;



Albert II., King of Saxony; Alexander II., Emperor of Russia; Francis Joseph, Emperor of Austria; Lewis, King of Portugal; H.R.H. Frederick William, Crown Prince of Prussia.

In consequence of increasing inquiries from the Colonies for my Eau de Cologne, the only genuine, I beg to submit my Price Current.

At the same time I beg to call special attention to the following facsimile of my Trade Mark, for the protection of which I have instituted thirteen suits in the High Court of Chancery, all of which have been decided in my favour.



All similar Labels being more or less imitations of the same, I shall proceed as before against all persons selling or exposing for sale any such imitations.

I only prepare one quality of Eau de Cologne. This quality never varies in the slightest degree, and there has not been the smallest change in the manufacture since the year 1709, when it was invented by my ancestor.

Orders equal to at least 12 dozen short bottles will be promptly executed at 12s. 6d. per dozen, against my bill drawn at three months from the date of invoice, delivered free on board the export ship, at Rotterdam, Antwerp, Hamburg, or Bremen, no charge being made for the case and packing, but insurance charged extra. 7½ per cent. discount is allowed for orders equal to at least 100 dozen, but on no smaller quantities.

I may add that, as I do not draw on the Colonies, all Orders must be accompanied by a credit on some London House, or permission to draw on same at three months.

The Goods can also be shipped in transit through London at a very small additional expense, full particulars of which may be obtained of my Sole Agents for Great Britain and Ireland:—

MESSRS. J. & R. McCACKEN,
No. 38 Queen Street, Cannon Street, London, E.O.

The following are the sizes of my bottles:—

No. 1. Long Green Flasks	12 bottles	} to one dozen.
" 2. Short White Bottles	...	...	...	...	...	...	12 "
" 3. Double ditto	...	...	...	...	...	...	6 "
" 4. Wickered Bottles (small)	...	...	...	...	...	...	8 "
" 5. ditto (medium)	...	...	...	...	...	...	4 "
" 6. ditto (large)	...	...	...	...	...	...	2 "

JOHANN MARIA FARINA,

OPPOSITE THE JÜLICH'S PLACE.

H. BROOKS & CO., COLLAPSIBLE TUBE MANUFACTURERS,

PATENTEES AND SOLE MANUFACTURERS OF THE

PORTABLE METAL SPRINKLER STOPPER,

AND DEALERS IN

GLASS BOTTLES FOR PERFUMERS AND OTHERS.

STEAM FACTORIES:

31 LIME STREET, CAMDEN ROAD (*COUNTING HOUSE, AND SHOW-ROOMS,*

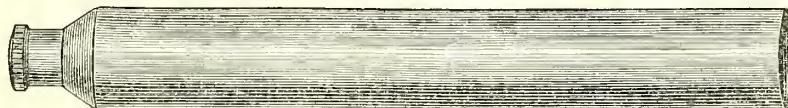
31 to 36 CUMBERLAND MARKET, REGENT'S PARK,

AND

BARTHOLOMEW ROAD, KENTISH TOWN, LONDON, N.W.

ESTABLISHED 1810.

COLLAPSIBLE TUBES OF ALL SIZES.

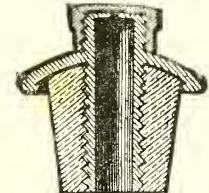


For Perfumes, Artists' Colours, Soaps, Cosmetiques, Creams, Oils, Varnishes, &c. These Tubes are inexpensive and portable, and may be applied to many useful purposes besides those above mentioned.

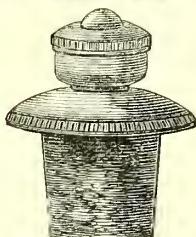
SOLE MANUFACTURERS AND PATENTEES OF THE PORTABLE METAL SPRINKLER STOPPER,



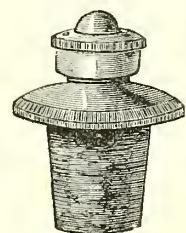
With Cork fitted thereon for bottles of any size, and having apertures of various dimensions, especially adapted for Perfumes, Hair Washes, Lime and Glycerine Essences, &c. These handsome stoppers give a character and finish to the most ordinary bottles to which they may be applied. Gilt or plain; and put up if required in handsome glass lid boxes, suitable for shop counters and show cases, at moderate prices.



THE "TORSION" PATENT SPRINKLER.



No. 18a.



No. 19a.

The two designs, Nos. 18a and 19a, are those to which we direct special attention, as sizes being in general use; other sizes will follow promptly to meet all requirements, on which Caps with two or more holes will be introduced to meet the public taste.

Particular attention is called to the latest improvement in our Patent Metallic Stopper, the "Torsion." This New Stopper adheres to the design of the original patent, which has been universally acknowledged as an ornamental and inexpensive article for the Toilette, as possessing all the advantages of a "Permanent and Indestructible Stopper, suitable for Bottles of all Sizes and Shapes," with the additional security it affords, that the Cap can never be entirely unscrewed, consequently it cannot be lost. It is specially effective as a Sprinkler, while giving a more prompt and copious, yet economic supply, through the improved action of the Cap. Such combined advantages, in an article of exquisite finish, have long been desired, and it is thus submitted for general approval, and its usefulness when tried will be appreciated by all.

Illustrations, Price Lists, &c., can be had on application, or through any Wholesale House in town or country. All Orders received direct will be promptly attended to.

CAUTION.—All Stoppers of our Manufacture are made of Pure Tin, and have the name of H. BROOKS & CO. stamped on the under side of the rim.

All Tubes are made of Pure Tin unless specially ordered of Mixed Metal, from the smallest size up to 13 in. by 23.

SPONGES!

GOLD MEDAL AWARDED,
BRUSSELS EXHIBITION, 1881,

TO

R. CRESSWELL & CO.,

SPONGE MERCHANTS & IMPORTERS,

32 Red Lion Square, London;

AND AT PIRÆUS AND SMYRNA.

ESTABLISHED 1850.

The Finest Qualities and Shapes obtainable are quoted below, and the Prices are, without exception, THE LOWEST IN THE MARKET.

PRICES CURRENT OF SANDED AND SANDLESS SPONGES, IN ORIGINAL CASES AS IMPORTED.

HONEY-COMB SPONGES.

No.	Qnty.	Pieces in case about.	Price case.	£	s.	d.
1	1st Finest selected shapes, assorted sizes ...	130	12	0	0	0
2	1st Do. do. ...	75	7	0	0	0
3	1st Do. do. ...	45	4	0	0	0
4	1st Small selected shapes ...	275	7	0	0	0
5	1st Superior do. large Bath sizes	25	7	0	0	0
6	2nd Do. quality shapes, assorted sizes... ...	125	8	0	0	0
7	2nd Do. do. do. ...	75	4	4	0	0
8	2nd Good quality shapes, small ...	275	3	10	0	0
9	2nd Do. do. large Bath sizes	25	5	0	0	0
10	3rd Do. do. assorted sizes ...	145	5	5	0	0
11	3rd Do. do. do. ...	90	3	10	0	0
12	3rd Do. do. large Bath sizes	25	3	0	0	0
13	4th For Stable use, &c. ...	125	1	5	0	0

FINE TURKEY SPONGES.

14	1st Finest selected Cups, assorted sizes	110	18	0	0
15	1st Do. do. do. ...	55	10	0	0
16	1st Do. do. Bath sizes	35	12	0	0

Fine Turkey Sponges—continued.

No.	Qnty.	Pieces in case about.	Price case.	£	s.	d.
17	2nd Superior Cups, assorted sizes ...	110	12	0	0	0
18	2nd Do. do. ...	55	7	0	0	0
19	2nd Do. Bath sizes	35	9	0	0	0
20	3rd Fine Cups, assorted sizes	110	9	0	0	0
21	3rd Do. do. ...	65	5	5	0	0
22	3rd Do. Bath sizes ...	35	7	0	0	0
23	1st Turkey Solids, assorted sizes	115	7	0	0	0
24	2nd Do. do. ...	110	5	10	0	0
25	1st Flat Saddle, assorted sizes	55	9	10	0	0
26	1st Do. do. ...	35	6	0	0	0
27	2nd Do. do. ...	55	6	5	0	0
28	2nd Do. do. ...	35	4	0	0	0

BROWN TURKEY SPONGES.

29	1st Finest selected, assorted sizes ...	140	4	10	0
30	1st Do. do. ...	75	2	15	0
31	2nd Superior quality, do. ...	140	3	3	0
32	2nd Do. do. ...	75	2	0	0
33	3rd Slate quality, do. ...	350	1	1	0

The above may be had Sanded or Sandless, as required.

ALL COMMUNICATIONS TO BE ADDRESSED TO LONDON OFFICES.

RESPIRATORS !!

Maw's Incorrable Metallic, each in handsomely labelled box,—

No. 1	2	3	4	5	6	7	8	
10/-	21/-	30/-	32/-	40/-	45/-	50/-	56/-	per doz.
Dwarf	...	...	...	...	No. 1	2	3	
					24/-	30/-	40/-	per doz.

							£	s.	d.
Maw's Scarf , Silver-plated	...	...	...	...	...	...	per doz.	3	4
Ditto Gilt	...	...	...	...	...	...	"	4	16
Maw's Æthereon (full-sized instrument)—Silver-plated, in paper cases	...	...	...	...	...	...	"	2	0
Maw's Æthereon (full-sized instrument)—Gilt, in cloth cases	...	...	...	...	...	...	"	3	4
Maw's Micro-Æthereon (diminished instrument)—									
Silver-plated, in morocco cases	...	...	...	...	...	...	"	2	0
Gilt, in morocco cases	...	...	...	...	...	...	"	3	4
Maw's Cork , in neat boxes	...	...	...	...	...	...	"	0	6
The Cloud , in neat boxes	...	...	...	...	...	...	"	0	8

RESPIRATORS OR PNEUMOCLIMES—JEFFREY'S PATENT.

	Superior, Richly Gilt.		Standard, Ordinary.		Common Materials.	
	Wholesale, each.	Retail, each.	Wholesale, each.	Retail, each.	Wholesale, each.	Retail, each.
Dwarf , in cardboard boxes	4/8	7/0	3/8	5/6	2/4 1/11	3/6 2/6
Himalene , highly finished, gentlemen's with Shawl Scarf; also removable, for using in the hand	10/0	15/0	5/4	8/0	3/4	5/0
Himalene Promenade , to be held in the hand or suspended	6/0	9/0	4/0	6/0	...	...
Nasal , variable power, ladies' or gentlemen's...	...	...	7/0	10/6	...	...
Oral , low power, ladies' or gentlemen's...	6/0	9/0	4/8	7/0	...	...
Oral , second or full power, ladies' or gentlemen's ...	8/0	12/0	5/8	8/6	3/0	4/6
Oral , ditto children's ...	...	...	3/8	5/6	...	...
Orinasal , variable power, medium to low, ladies' or gentlemen's ...	9/4	14/0	7/0	10/6	4/0	6/0
Orinasal , variable power, medium to low, children's ...	...	...	4/4	6/6	...	...

S. MAW, SON & THOMPSON,

7 to 12 ALDERSGATE ST., LONDON.

THE UNIVERSAL TOOTHACHE SYRINGE

Retail,
6d. each.



Wholesale,
4s. per dozen.

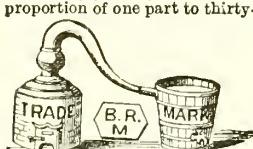
Is a great improvement upon the "DENTAL SYRINGE," as the fluid is contained in a *glass bulb*, which enables its contents to be seen, also prevents the liability to evaporation through long keeping or *exposure*.

THE UNIVERSAL CORN AND WART PENCIL.

1 doz. mounted on a handsome Illustrated Show-Card, Retail, 6d. each; Wholesale, 3s. 6d. per doz. It is especially adapted for Export Trade, and may be safely sent to the hottest climates, as each glass tube is hermetically sealed and enclosed in a cardboard case.

N.B.—Both the above are exempt from Stamp Duty by permission of the Board of Inland Revenue.

CONCENTRATED WATERS.—One Ounce of these Waters added to Forty Ounces of Distilled Water forms a clear Medicated Water (without filtering), similar in every respect to those prepared according to the directions of the British Pharmacopœia, and free from all Chemical impurity. They are prepared to supply a want long felt by Chemists and Medical Men, and by their uses fresh supply of any of the Medicinal Waters may be obtained at a moment's notice. They are not affected by age in any climate. N.B.—Used in the proportion of one part to thirty-two of water they represent the Medicinal Waters of the *United States Pharmacopœia*.



	Per lb.	Per lb.	Per lb.	Per lb.	
Aqua Anethi, Concent.	4/0	Aqua Cinnam. Ver. Concent.	6/0	Aqua Freniculi, Concent.	4/0
" Anisi,	4/0	" Cassiae	4/0	" Menth. Pip.	4/0
" Camphoræ	4/0	" Flor. Aurant.	8/6	" Rosæ	8/6
" Carui	4/0	" Flor. Sambuci.	8/6	" Ang. Con.	6/0
				" Rosæ Virgin.	10/6
				" Virid.	4/0

The above are put up in Bottles of $\frac{1}{2}$ lb. or 1lb. and upwards, each of which has the Inventor's Protection Label over cork. Wholesale Agents—Hearon & Co., Maw, Son, & Thompson, Lynch & Co., London; Evans, Sons & Co., Raines Liverpool; Woolley, Manchester; Bewley & Draper, Hunt & Co., Dublin; Glasgow Apothecaries' Co., Hatrick & Co., Glasgow; Raines & Co., Duncan Flockhart & Co., Edinburgh; Fogitt, Thirsk; Goodall & Co., Leeds; Slinger & Son, York; McKesson & Robbins, New York. Special terms for large quantities may be had from

B. ROBINSON, Operative Chemist, Distiller and Brewer of British Wines, Manchester.

DRUGS, CHEMICALS & PHARMACEUTICAL PREPARATIONS.

OLDFIELD, PATTINSON & CO.,

Late WILLIAM MATHER,

WHOLESALE AND EXPORT DRUGGISTS,

AND

MANUFACTURING CHEMISTS,
37 Long Millgate, MANCHESTER.

SPECIALTIES:

Concentrated Infusions and Decoctions, Soluble Essences, Liquors, Extracts, &c.

IMPORTERS OF DALMATIAN INSECT FLOWERS AND POWDER.

Large Buyers are requested to write for quotations.

PRICE LISTS MAY BE HAD ON RECEIPT OF BUSINESS CARD.

SANDS' MANUFACTURING COMPANY

Beg respectfully to notify the removal of their Factory from 55 HOLBORN VIADUCT, to more commodious premises at

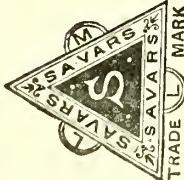
121 GOSWELL ROAD, E.C.,

WHERE THEY REQUEST ALL ORDERS MAY BE SENT.

SANDS' SPECIAL PREPARATIONS.

Standard Dyes, 1d. on 6 dozen cards	7/- gross.	Dental Enamel, 3d. packets on $\frac{1}{2}$ -gross cards	21/- gross.
" 2d. on 6	21/- "	Face Powders, } 1d. packets on cards assorted	7/- "
" 6d. in 3 dozen glass top boxes	42/- "	Tooth Powders, } 1d. tins, in $\frac{1}{2}$ -gross wood boxes	42/- "
Jet Black Dye, 3d. on 3 dozen cards	21/- "	Hair Wash Powders, } 1d. boxes, in $\frac{1}{2}$ gross wood boxes	21/- "
" 6d. on 3	42/- "	Insect Powder, 1d. boxes, in $\frac{1}{2}$ gross wood boxes	42/- "
Edison's Starch Enamel, 1d. packets	7/- "	" 3d. tins, in $\frac{1}{2}$ -gross wood boxes	84/- "
" 3d.	21/- "	" 6d. "	21/- "
" 6d.	42/- "	Vermin Killer, 1d. packets, on $\frac{1}{2}$ -gross cards	42/- "
Marking Pencils	30/- "	" 3d. "	42/- "
Elephantine Cement, 1d. bottles on cards	7/- "	" 6d. "	84/- "
" 2d.	14/- "	Black Reviver, 2d. on $\frac{1}{2}$ -gross cards	14/- "
" 6d.	42/- "	Harrison's Anticorrosive Paste, 6d. tins	42/- "
Polishing Powder, 1d. boxes, in $\frac{1}{2}$ -gross wood boxes	7/- "	" 1/- "	84/- "
Plate Powder, 1d. boxes, in $\frac{1}{2}$ -gross wood boxes	7/- "	Polishing Powder, 6d. boxes	42/- "
Dental Enamel, 1d. packets on $\frac{1}{2}$ -gross cards	7/- "		

SPECIAL NOTICE.—Whereas, it has come to the knowledge of the proprietors of Sands' Manufacturing Company that unprincipled persons are representing themselves as having purchased this business from the original Alfred Sands, a reward of £20 will be paid on the conviction of any person making any such false statements; the business established by the late Alfred Sands being now carried on wholly and solely at **121 Goswell Road, London, E.C.**



SAVAR'S PROPRIETARY SPECIALTIES.

SAVAR'S ANIMAL SOAP (NON-POISONOUS).

For Washing Dogs and other Domestic Animals. Packets, 6d. each.

SAVAR'S BREAST EXHAUSTERS.

Fitted with the Latest Improvements. 1s. each.

SAVAR'S BRUNSWICK BLACK.

6d. and 1s. Bottles.

SAVAR'S CAMPHOR CASKETS.—Prevent Infection and relieve Catarrh.

6d. and 9d. each.

SAVAR'S CARBOLIC ACID SOAP.—For Domestic Use. Superior quality (containing 8 per cent. of Acid). 6d. per lb.

SAVAR'S CHEST PROTECTORS.

Manufactured from best materials. 1s. to 5s. each. Prepared from an Original Formula; a most elegant and agreeable Toilet Disinfectant. In Tablets, 4d. and 6d. each.

SAVAR'S COAL TAR SOAP.—Delicately Perfumed with Otto of Roses.

Pots, 6d. and 1s. each.

SAVAR'S CORN AND BUNION PLASTERS.

Best White Felt. 6d. Boxes, &c.

SAVAR'S EXTRACT LIMES AND GLYCERINE.

6d. and 1s. Bottles.

SAVAR'S FEEDING BOTTLES.—These Feeding Bottles are fitted with the best quality of Materials, and are acknowledged by all to be superior to any others offered at the same prices. May be had either fitted with White Indianrubber Tubing and Teats, or with Native Black (Special Detailed List.) Indianrubber Tubing and Teats. Also with Screw Necks (extra size for night use), and with entire Indianrubber Fitings. 6d., 1s., and 2s. each.

SAVAR'S FLORAL POMADES.

In 1s. and 6d. Bottles.

SAVAR'S FLY PAPERS.—For the Destruction of all kinds of Insects.

The Cheapest and most Effectual made.

SAVAR'S FOSSILINE CORN PLASTERS.—Easily applied. Superior to any others. Boxes, 6d. and 1s. each, and in bulk.

SAVAR'S FOSSILINE PLASTER.—Highly recommended by the Medical Faculty as superior to other Plasters. Boxes, 9d. each.

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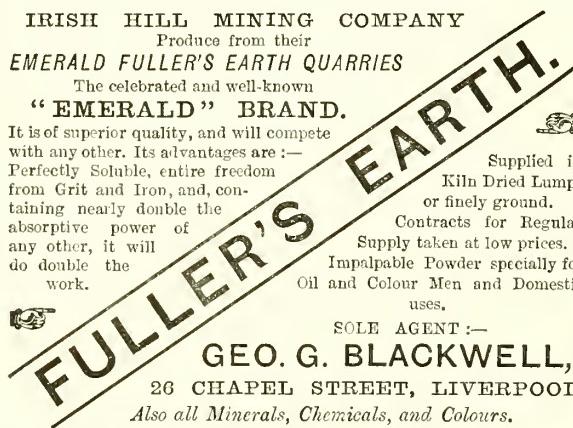
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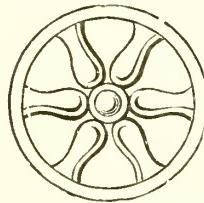
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For Bleaching Hair, Feathers, Wax, Ivory, &c., &c.

12 VOLUMES.

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Produces, by two or three applications, the beautiful Golden Colour so much admired.

WARRANTED PERFECTLY HARMLESS.

1/0 size, 6/0 per dozen.	Put up in an attractive and saleable form.
2/6 " 15/0 "	
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of every known kind.**T. F. BRISTOW & CO.**

Wholesale Perfumers & Fancy Soap Makers.

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TOILET SOAPS
of every description.Concentrated (various)
CHOICE ESSENCES

(IN BOTTLES).

No. 30, 12/- for 20 fluid ounces.

No. 24, 9/- "

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AND IN

doz.

Corked Bottles .. 3.6 4/- 7/- 8/- 12/-

Sprinklers 4/- 7/6 8/- 12/-

Stop-d Bottles .. 9/- 12/- 14/- 18/-

and upwards.

POMADES, &c.

Assorted (tall or squat)	4/- and 8/-	doz.
Nursery (large)	4/- and 9/-	
Lime Juice & Glycerine	4/- and 8/-	
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(separable and unseparable.)		
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Lip Salve, pots & sticks	4/- and 8/-	

Special Soaps in Boxes.

Cold Cream Soap,	doz.	
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Glycerine & Oatmeal do.,	8/- and 12/-	
" Transparent, do. 8/- and 12/-		
" and Carbolic, do. 8/- and 12/-		
Lavender (Sweet), do. 8/- and 12/-		
Baby Soap, 4 tablets in box		
..... 12/- ditto	27/-	
Family Economic, 4 ditto		
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Sulphur	4/- and 8/-	
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Medicated Soaps

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Almond	
Brown and White Windsor Curd	
Carpet & Cloth Soap 3/6 and 7/- dz.	
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Coal Tar (Family) 18/- and 27/- gr.	
Carbolic	18/- and 27/-
Camphrit Winter 27/- and 39/-	
Fullers' Earth	3/- dz.
Jewellers	4/-
Petroleum	4/-
Pumice Stone	3/- 9/-
Juniper Tar	4/-
Rose	4/-
Sulphur	4/- and 8/-
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SOAPS (in Bulk).

per cwt.

5 BISHOPSGATE AVENUE, CAMOMILE STREET, LONDON.

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NEW FLORAL SAMPLE STAND.

New Perfumes for the Handkerchief.—(Extracted by means of Rimmel's Myogene.)—White Pink, Malveta, Rose Laurel, Meadow Flowers, Réseda, White Lilac, Wallflower, Tafta, Syringa, Magnolia, &c.

All put up in the usual sizes, from No. 51 to 65.

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POUDRE DE BEAUTÉ.—Scented with White Heliotrope, the finest Toilet Powder ever produced, to sell from 2/-.

Rimmel's New Tilia Perfumery, Scented with the Flowers of the Lime Tree (Tilia Europea).

New Blond Tincture, producing a natural shade, from 5/-.

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Transparent Coal Tar Soap, uniting the purifying action of tar with the emollient properties of transparent soap, in boxes of three cakes, to sell 6/- per cake.

Pocket Soap, in metal case for travelling, 6d.

Rimmel's New Series of Transparent Glycerine Soap, as cheap as the German article, and considerably superior in quality. Oval tablets, to retail at 1 1/2/-, 3d., and 6d. per cake. Balls, 6d. and 1s. Bars, 9d. and 1s. Shaving Sticks, 1s.

Tilia Soap, in boxes of three cakes, to sell 1/6. Tilia Extract, in all sizes, from No. 51 to 65. Tilia Toilet Water, to sell, 2/6, 4/6, and 6/-.

Tilia Pomade, 1/6. Tilia Oil, 2/6. Tilia Cosmetic, 1/6. Tilia Cold Cream, 1/6. Tilia Rice Powder, Packets, 1/- and 1/6.

N.B.—Purchasers of £5 worth of White Heliotrope or Tilia Perfumery are presented with a Glass Show Case, 14 in. by 10 in., to exhibit it therein.

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Transparent Glycerine Soap,

In registered Packets of three Tablets, and in oval Tablets in paper. Warranted to contain 33% of the purest Glycerine.

Liquid Glycerine Soap,

Best preventive against chapped hands, and unrivalled for imparting softness to them, and rendering them clean and white. See Testimonials of Professor J. von Liebig, Baron; and of Professor F. Wöhler.

Sarg's Double Distilled Glycerine, Chemically Pure,

In ½ lb. and 1 lb. Bottles, should have a place in every nursery on account of its salutary action on the heads of children, relieving them from dandruff, and the roughness of the scalp they are so commonly subject to.

Sarg's New Carbolic Glycerine Soap,

In Boxes of three Tablets, is highly recommended as a most effective disinfection.

GLYCERINE, CHEMICALLY PURE.

SARG'S DISTILLED CHEMICALLY PURE GLYCERINE, 29° Beaumé, in Cases of Four 56-lb. Tins each.

SARG'S DOUBLE DISTILLED GLYCERINE, Chem. pure, 30° Beaumé, in Cases of Four 56-lb. Tins each; Twenty 5-lb. Bottles, Fifty 1-lb. Bottles, and 100 ½-lb. Bottles, with Registered Label.

SOLD BY ALL WHOLESALE CHEMISTS AND DRUGGISTS.

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CHERRY TOOTH PASTE,
 FOR CLEANING AND PRESERVING THE
TEETH AND GUMS.

In Round Earthenware Covered Boxes, Burnt-in Labels,
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AROMATIC TOOTH PASTE.

IN COVERED JARS.



BURNT-IN LABELS.

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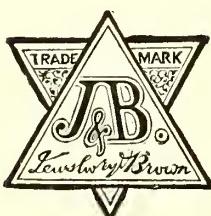
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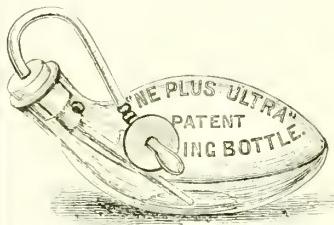
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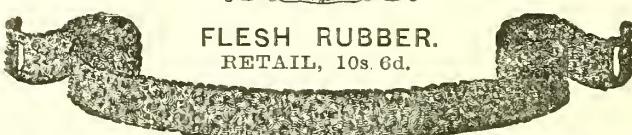
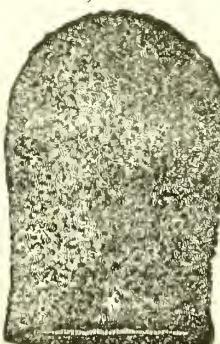
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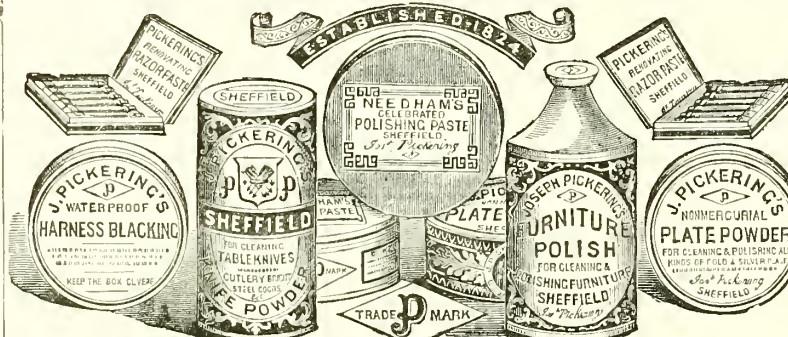
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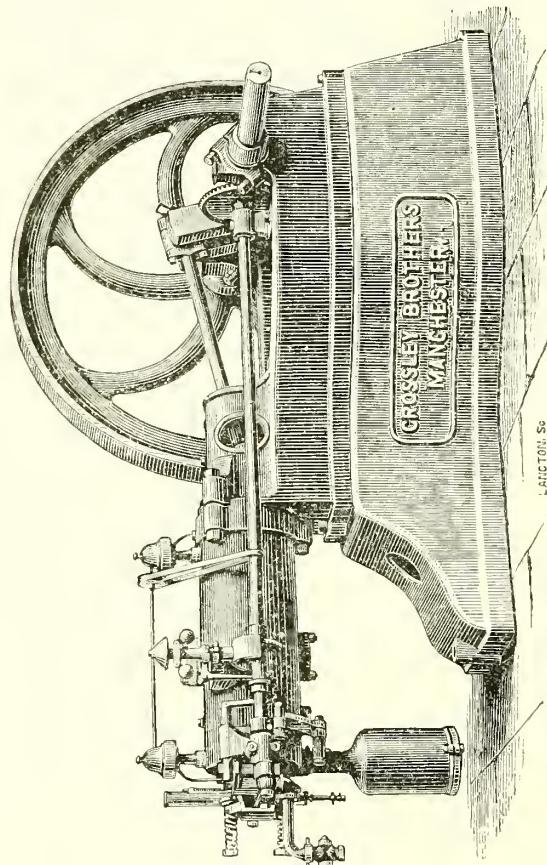
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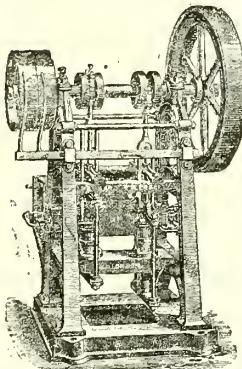
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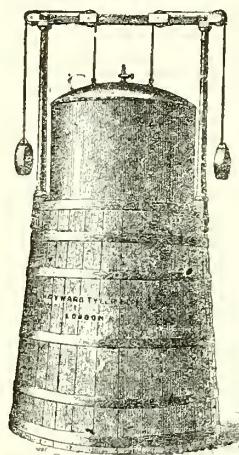
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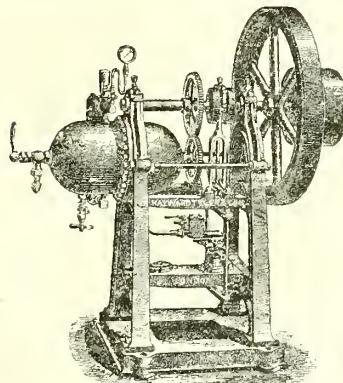
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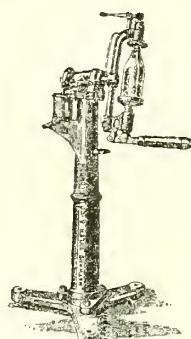
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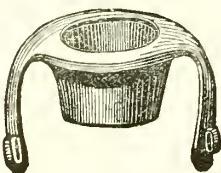
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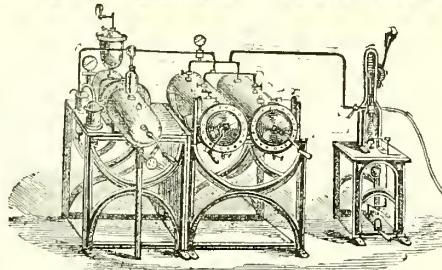
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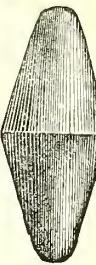
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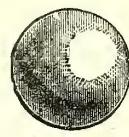
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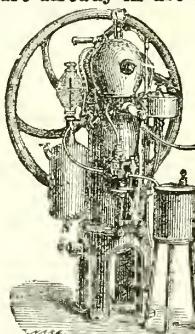
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No. 1 Machine, complete.
Prices from £28.

The Cheapest Machine.

The Most Compact.

The Most Simple to Work.

Being Entirely Automatical.

"When explained it is simplicity itself. . . . The fact of the economy of skilled labour and the saving of materials being the chief and most important points."

—The Mineral Water Trade Review and Guardian.

"There is no ordinary generator or gasometer in connection with this machine, and therein lies the secret of its advantage over the ordinary English Machines."

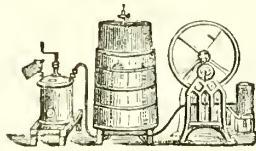
—The Mineral Water Trade Recorder and Advocate.

75 TURNMILL STREET, LONDON.
CLERKENWELL, E.C.,

H. FAVARGER (Late MONDOLLOT)
& CO., Limited,

SODA WATER MACHINERY
BY
BARNETT & FOSTER,
23rd FORSTON STREET, SHEPHERDESS WALK, LONDON, N.

Prize Medals—London, 1862, 1873, 1874; Paris, 1867, 1878; Vienna, Philadelphia, Cape, &c. Highest Award, Sydney, 1879-80.



Our Machines are universally adopted throughout the world for the manufacture of all kinds of Aerated Drinks, whether in bottles, syphons, or counter fountains. There are in England alone over 1,500 factories where our Machinery is in use. They are the simplest, safest, and cheapest for the purpose, and produce a highly-charged gaseous water free from metallic or foreign contamination.

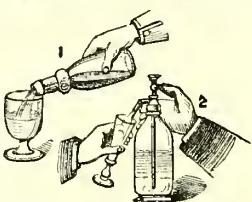
All our Machines have a Gasometer, and it forms a most important necessity where purity of product is required, as in this the gas is expanded and purified; it also removes the possibility of explosion, and avoids the necessity of complication—these we consider of greater importance than the saving of a few inches of floor space.

Our valuable Book of Recipes and Instructions accompanies every Machine, and the most unskilled can at once produce Waters of the highest class.

Sole Agents for Codd's Patent Bottle, Fig. 1. Sole Manufacturer of the "London-made" Syphon, Fig. 2.

PATENTEE OF THE IMPROVED CORKING MACHINE FOR CHAMPAGNE BOTTLES.

ILLUSTRATED CATALOGUE FORWARDED FREE.



PURCHASE OF SODA WATER MACHINERY ON EASY TERMS.

N. G. WILCOCKS,
Engineer and High-class Soda Water Machinery Maker,
BACK STREET, BATH,

Directs attention to the arrangement which has been carried out by his firm for some years on a large and liberal scale, of supplying Soda Water Machinery and all appliances for the Trade, on a

SYSTEM OF MONTHLY PAYMENTS

EXTENDING OVER TWO OR THREE YEARS ON FAIR AND EASY TERMS.

This system can be adopted in any part of Great Britain, and for Engines, Boilers, &c., as well as for Soda Water Machinery. Transactions thus made are strictly private, and no gazette registration is required. Machines supplied on the Bramah or American principle; all made from the newest patterns and well finished.

SEND FOR PARTICULARS OF
WILCOCKS'
Improved Original
SODA WATER MACHINE
 (HAND POWER),
 Capable of Making
100 doz. per day.
 CASH PRICE—
£22 10s. complete.

A Soda Water Plant supplied on this system will earn its cost and something more, and within two or three years will be the property of the hirer, who will by that time have established a profitable connection. Chemists are especially requested to write for particulars, stating the extent of trade they wish to provide for.

NOVELTIES IN BOTTLES AND STOPPERS.



THE GLASS, EBONITE, PORCELAIN, &c. DISC BOTTLE,

WITH NEW PATENT PURE RINGS,
 SIMPLE, PERFECT, UNIQUE.

Likely to supersede all other Patent Bottles.

*The Disc effectually covers the rubber
 when the bottle is filled.*



These Bottles and Ebonite and Porcelain Discs can be supplied at a cheaper rate than the Prepared Glass, as No. 1.

THE SCREW STOPPER & BOTTLE, For Ales, Porter, Cider, and Brewed Beer.

The Screw Stoppers can be attached to the necks of the Bottles by a band of wire and a small chain, if preferred; price about 3s. 6d. extra. See Fig. 4.

When bottling, the Stoppers must be wetted before screwing them in. Screw it gently but firmly home.

They should not be subjected to the action of any strong alkali, or great heat, and are not recommended for bottling spirits at present.

Essential and Indispensable for every Refreshment Room Proprietor, for every Hotel and Public-house, and for every Householder.

Our other, and well-known Stoppers, &c., still supplied as usual.



SAMPLES ON APPLICATION.

OUR ORIGINAL AND WELL-KNOWN

STOPPERS HAVE NOW BEEN
 IN USE FOR YEARS BY
 UPWARDS OF 1,000



MINERAL WATER MANUFACTURERS

AND OTHERS THROUGHOUT
 THE UNITED KINGDOM
 AND THE WORLD.

BARRETT & ELERS, 9 Dacre Street, Westminster, LONDON, S.W.

Hunyadi János

CAUTION.—Circumstances which have come to the knowledge of Andreas Saxlehter, Buda Pest, Sole Proprietor of the Hunyadi János Spring, compel him to WARN the British Public against SPURIOUS IMITATIONS. To secure genuineness, purchasers should see that every bottle has on the LABEL the name of "THE APOLLINARIS COMPANY (LIMITED), London."

AWARDED THE CERTIFICATE OF MERIT AT THE SANITARY EXHIBITION OF GREAT BRITAIN.

A SIX DOZEN CASE, which may be assorted, to any Railway Station for 36s., returned Empty allowed 18s.

A Liberal Discount to the Trade, who should send for Sample Case before ordering elsewhere.



Telegram from Melbourne Exhibition,
May 7, 1881.

To Messrs. Samuel Gulliver & Co, Aylesbury.

TWO FIRST-CLASS AWARDS for your Exhibit, being the Highest Honours obtainable for Mineral Waters. Special reference being made to the Good Quality."

Also Two Second Awards and Honourable Mention—Five Honours in all.

FOREIGN

Mineral Waters and Zoedone.

FREDERICKSHEA (5 Cases, 6d. per Case less), 24, 6 Cases, 30 bottles; 31 Cases, 60 j.-bott.

APOLLINARIS (10 Hpr., 1/- and 1 1/2 less), 21 Cases, 50 bottles; 36, 6 Hpr., 100 j.-bott. Hamper free.

HUNYADI JANOS (10 Cases, 3/- and 5/- less), 30 Cases, 23 bottles; 50 Cases, 50 j.-bott.

BELTZER 11/- Hpr., 25 hts. 15/- Hpr., 50 j.-bott.

PULLNA 18/- Case, 20 bottles; 30/- Case, 50 j.-bott.

VICHY 31/- 50 bottles; 37/- " 50 j.-bott.

CARLSBAD 37/- " 50 bottles.

KISSENGEN 42, 6 " 50 "

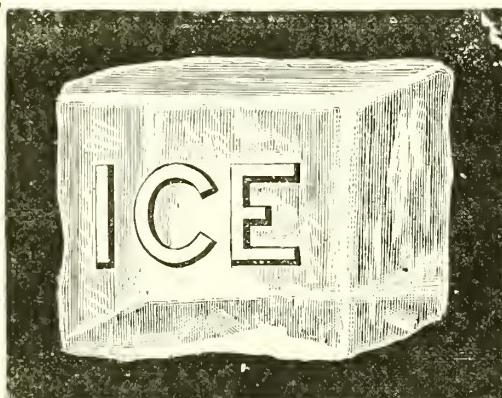
SCHWALLBACH 27, 6 " 50 "

HOMBURG 37, 6 " 50 "

WILDUNGEN 40/- " 50 "

CARLSBAD SALTS, 4-Bott., 20/- per doz.; 1/2 Bott., 40/- per doz.; Bott., 80/- per doz.

ZOEDONE, 5/- per doz., 6-dozen Cases (fit 5 Cases, 2d., 10 Cases, 3d., 20 Cases, 4d. per doz. less).



REGISTERED AT STATIONERS' HALL.

Norway Block Ice.

ORIGINAL BLOCKS 1/- per cw

1 cwt. to 2 cwts. 2/- "

2 cwt. to 1 cwt. 3/- per lb.

Packing and Mats for Original Blocks free 3d. each allowed for Mats if returned. Present Season's Ice specially fine and extra thick. Low quotations given for quantities taken from vessels where discharged.

PRINTED DIRECTIONS for STORING ICE sent free on application.

W. B. HARRISON,
IMPORTER OF ICE AND
MINERAL WATERS,
6 Bridge Street, Sunderland.

Discovered by a Member of the Royal College of Surgeons of England.

This natural Antacid and Tonic Mineral Water claims to be a most valuable medicinal beverage in that it possesses the proper proportion of the Carburet of Magnesia and Iron, which can neither relax nor bind the system, exerting a decided tonic and invigorating virtue of Iron, and corrective property of Magnesia. The proportion of these most important ingredients is such that it may be taken as ordinary Table Water, being, in short a simple, effective, safe, and agreeable *Alkaline Chalybeate*. It is particularly recommended by so eminent members of the medical profession for the *Gouty, Throats, Anemia, Debility, and Weak Digestion*, and when a constitution requires *Tonicity and Vigour*, *Epilepsy* and *Hemiplegia* have been materially benefited under its dietary use, showing it to be of great value in impairing tone to the nervous system. The Water aerated, may be procured from the above Mineral Water Importers, and on recommendation of medical men *Invalids* of the upper class are received at the Spring, where the climate is invigorating, and consumption unknown; and in a county where "more than 80 persons have outlived their 100th year within a period of less than 40 years"—*White's History of Norfolk*.

Extract from *Analytical Report by Professor ATTFIELD, Ph.D., F.R.S., F.I.C., F.C.S., Professor of Practical Chemistry to the Pharmaceutical Society of Great Britain*.

"The 'Shelfanger' is a valuable Magnesian Antacid and mild Chalybeate Water."—JOHN ATTFIELD.

From THOS. COLE, Esq., M.D., M.R.C.P., Lond., Physician to the Royal United Hospital, Bath. "The Shelfanger Mineral Water is Antacid and Chalybeate. I would therefore strongly recommend it in many Dyspeptic conditions, Suppressed Gout, and Anæmia."

From CHAS. WHITBY, Esq., M.B., Leamington. "I am much inclined to believe that the Shelfanger Mineral Water will ere long become a popular beverage with Gouty, Debilitated, and Anæmic Invalids."

From FREDK. THORNE, Esq., M.R.C.S., &c. "I have tried the Shelfanger Mineral Water, and find that it possesses all the characteristics claimed for it, and it is, moreover, very agreeable, which cannot be said of most Chalybeates."

Retail Price 6/- per doz. Half Pints, Bottles included.

PROPRIETOR, THE SPA, SHELFANGER, NEAR DISS.

WHOLESALE AGENTS—

INGRAM & ROYLE, 119 Queen Victoria Street, LONDON, E.C.

FOR SUMMER.

RASPBERRY
STRAWBERRY
LIME FRUIT
BLACK CURRANT
LEMON, ORANGE
JARCONELLE PEAR
PINE APPLE

In Bottles, 1/9,
Half Bottles, 1/-

FOR WINTER.

AROMATIC
BLACK CURRANT
GINGERETTE
GINGER LEMON
PEPPERMINT
CLOVE
WINTER PUNCH
LIME FRUIT
CORDIAL

In Bottles, 1/9,
Half Bottles, 1/-

By the simple addition of two table-spoonfuls of these Syrups to a tumblerful of hot or cold water, most wholesome and refreshing drinks are immediately prepared, as pleasant to the taste as they are invigorating to the system. For Gazogens and the Syphon Soda Water Bottles they are admirably adapted. Put into a tumbler a large spoonful of any of the Syrups, and fill it up with the Gaseous Water. Largely used for flavouring Puddings, Jellies, Custards, and Blanc-Mange, and are specially suitable for the Sick Room, Pic-nics, Weddings, Christmas and Birthday Parties, &c., &c.

Sole Manufacturer—W. BECKETT, Heywood, MANCHESTER.



Wholesale Agents—Barclay & Sons; Sanger & Sons; Edwards & Sons; Sutton & Co., &c., &c.

W. J. BUSH & CO.,

Distillers and Importers of

Essential Oils & Fruit Essences,

SPECIALITIES FOR AERATED WATER AND CORDIAL MANUFACTURERS,

ESSENCE LEMON,

EXTRA SUPER QUALITY,

The only pure Essence imported, made at our Works at Sicily.

ESSENCE GINGER ALE,

For Winter Drinks.

TONIC ESSENCE,

FOR BITTER WATER.

Soluble Essence Lemon.

SOLUBLE ESSENCE GINGER.

SOLUBLE ESSENCE OF PEPPERMINT.

BEWARE OF SPURIOUS IMITATIONS.

W. J. B. & Co. caution the Trade against the so-called Soluble Essences now so frequently offered for sale, which are nothing more than mere Tinctures; and although offered at lower prices, cost 5 or 6 times as much in use, whilst imparting a strong medicated flavour. W. J. B. & Co. further beg to inform their friends that Aerated Drinks as Pale Ale, Horehound Beer, &c.—made from their Soluble Essences are exempt from Excise regulations.

NONE OTHERS ARE GENUINE.

CAUTION.

W. J. BUSH & CO. regret having to caution the trade against spurious imitations of this article, most of which being mere rubbish.

GUM EXTRACT

(French Cream),

PROTECTED BY ROYAL LETTERS PATENT.

For producing a Permanent Head of Creamy Richness on Ginger Beer, Ginger Ale, Lemonade, and other Aerated Beverages; also on Beers, Ciders, Wines, &c.

2s. 6d. per lb.

TO MAKERS AND VENDORS OF EFFERVESCENT DRINKS, AND TO THE PUBLIC GENERALLY.

IN the High Court of Justice—Chancery Division—on Thursday, June 10, 1880, before Vice-Chancellor Sir C. Hall, an application was made in the action of Bush v. Young to commit the defendant to prison for disobeying an injunction whereby he had been restrained from selling, imparting, or publishing a recipe, which is an infringement of a certain patent known as "Gum Extract," the property of the plaintiff, which is used in the mineral water trade for giving a creamy head or foam to ginger beer and other beverages; the defendant having published and sold a recipe for the preparation of the same compound under the name of "Compound Fluid of Saphacanum," to be used for the same purpose. The defendant resisted on the ground that the bark used by him was not the same as that used by the plaintiff, being known as "Panama Bark."

The plaintiff, however, proved that this was in fact the same, and the Court granted the injunction. The defendant also threatened to publish the recipe unless it were bought up by the plaintiff.

His lordship made an order that in default of defendant paying the costs, he should stand committed to prison.

All persons infringing the above patent, either by selling or using, will be proceeded against, and those who give information of such infringement will be liberally rewarded.

W. J. BUSH & CO.,

20-23 Artillery Lane, Bishopsgate, London, E.

HAY'S

SOLUBLE ESSENCE OF JAMAICA GINGER

(GUARANTEED PURE AND FREE FROM CAPSICUM)

TRADE PRICE, 5s. per lb.; 12 lbs. and upwards, 4s. 6d.
Highly adapted for the manufacture of *Transparent Aerated Waters*, and for all *Dietetic, Medicinal, and Pharmaceutical Purposes*.

HONOURABLE MENTION,
INTERNATIONAL FOOD EXHIBITION
AGRICULTURAL HALL, LONDON,
OCTOBER, 1880.

TESTIMONIALS.

"DEAR SIR,—I think you should make it generally known that your Essence, in water, is the very best vehicle possible for Cod Liver Oil. It conceals its flavour, prevents *Lausca* and eructations, and aids its digestion." DANIEL HOOPER, M.D."

"Spring Grove, Upper Norwood, London, S.E.
"DEAR SIR,—I have pleasure in testifying to the excellence of your Soluble Essence of Jamaica Ginger. You have fully overcome the difficulty usually experienced in preserving ginger in combination and in solution with iron tonic mixtures." EDWARD HAUGHTON, M.D."



Aroma, are flat-tourless, rank, and disagreeable, and are little more than Tinctures of Capsicum.

THE COMPOUND ESSENCE

(GUARANTEED PURE AND FREE FROM CAPSICUM).

This Essence imparts with the GINGER a PECULIARLY FINE FRUITY FLAVOUR and AROMA.

TRADE PRICE, 5s. 6d. per lb.; 12 lbs. and upwards, 5s.

THE COMPOUND FORTIFIED ESSENCE

Specially adapted for the Manufacture of the FINEST

GINGER ALE.

This Essence imparts the fullest amount of PUNGENCY with the FINE GINGER AROMA and FRUITY FLAVOURS of the LAST-MENTIONED ESSENCE.

TRADE PRICE, 5s. 6d. per lb.; 12 lbs. and upwards, 5s.

HAY'S GINGER ALE ESSENCE

HIGHLY CONCENTRATED.

This Essence is a complete Bouquet of the finest Ginger, Lemon, and other flavours, in a highly concentrated state.

TRADE PRICE, 9s. per lb.; 12 lbs. and upwards, 8s. 6d.

GINGER ALE EXTRACT

Supplies Pungency, Aroma, Colouring and Flavouring.

Price 4s. 6d. per lb.; 12 lbs. and upwards, 4s.

PREPARED BY

W. HAY, MANUFACTURING CHEMIST, 4 REGENT'S TERRACE, HULL.

AGENTS,

Messrs. HEARON, SQUIRE & FRANCIS,
5 COLEMAN STREET, LONDON, E.C.

CHEMISTS' AERATED AND MINERAL WATERS ASSOCIATION (LIMITED).

Manufacturers of MINERAL WATERS IN GENERAL, AND ALSO THE SPECIALITIES.

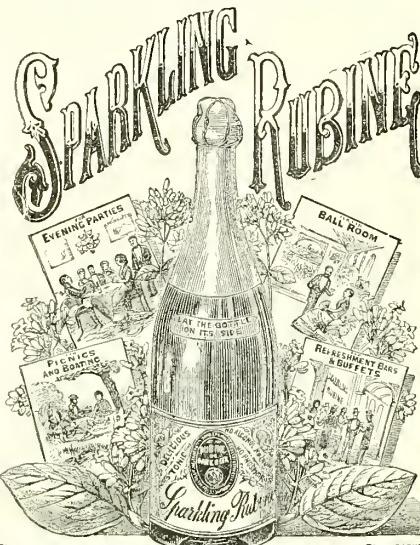
A Delicious Lime Fruit Beverage, Free from a Musty Flavour.

SPARKLING LIMINE.



Of Chemists, 5/6 and 8/6 per dozen.

Contains no Iron, no Phosphorus, but FRUIT AND VEGETABLE PRODUCTS ONLY.



Of Chemists, 5/6 and 8/6 per dozen.

SPARKLING RUBINE.

THE WATERS BEING OF FIRST QUALITY, A TRIAL IS SOLICITED.
Offices and Factories—45 Gifford Street, and 112 Pembroke Street, Caledonian Road; and Harrogate.

Caution

W. A. ROSS, the Original Patentee and Maker of
The Celebrated Belfast Ginger Ale, cautions
the Public that the "GENUINE" can only be had at

Ross Royal Ginger Ale AND Aerated Water Works Belfast.

NAME ON CORK, CAPSULE, AND LABEL REGISTERED.

EXPORT ORDERS HAVE SPECIAL ATTENTION

"ABSOLUTELY PURE."

SEE ANALYSIS. Sent post free on application.

ELLIS'S



REGISTERED.

RUTHIN

WATERS.

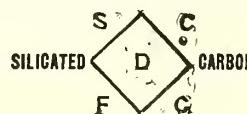
CORKS BRANDED "R. ELLIS & SON, RUTHIN," and every label bears their Trade Mark. Sold everywhere, and wholesale of

R. ELLIS & SON, RUTHIN, NORTH WALES.

London Agents: W. BEST & SONS, Henrietta St., Cavendish Square.

Soda, Potass,
Seltzer, Lemon-
ade, also Water
without Alkali.
For GOUT,
Lithia Water, &
Lithia &
Potass Water.

SILICATED CARBON FILTERS.



Prize Medals—PARIS, 1867. HAVRE, 1869.

ADOPTED, IN PREFERENCE TO ALL OTHERS, by
the Admiralty, and used in the General Post Office, the London and
Provincial Hospitals, and many Public Establishments in various parts of
the World.

SILICATED CARBON FILTER COMPANY,
CHURCH ROAD, BATTERSEA, LONDON.

See two-page Advertisement in this No.

SODA, POTASH, SELTZER, AERATED (without

ALKALI), and LITHIA WATERS,

LEMONADE AND GINGER ALE.

Each Bottle is protected by a Label bearing the Signature
of the Firm.

Purity and Excellence of the Water certified by Analysis
by Professor ATTFIELD, Ph.D., F.C.S.

JEWSBURY & BROWN'S MANCHESTER MINERAL WATERS,

PURE SODA, SELTZER, POTASH, LITHIA, &c.,
LEMONADE,
GINGER ALE, AND QUININE TONIC.

Prepared and Bottled specially for Export, and warranted to keep well.

Manufactured with the utmost care and by improved machinery, these productions are recommended for purity and excellence of quality by many leading members of the Medical Profession, and have for many years had a preference by the public; the flavour of the Lemonade and Ginger Ale being procured from the fresh Fruit and Finest Jamaica Ginger, they may be relied upon as furnishing delicious and satisfactory beverages, either for general use or specially for invalids.

The Soda Water is absolutely free from any metallic impregnation, and being by improved machinery highly charged with Carbonic Acid Gas, and each bottle containing a definite and unvarying proportion of Pure Carbonate of Soda, J. & B. have every confidence in inviting a trial from those who have not already patronised them.

The Seltzer, Potash, and Lithia Waters are prepared with the utmost exactitude and the purest ingredients.

The New Quinine Tonic furnishes a pleasant form for the administration of a most valuable restorative, and is refreshing and agreeable.

Ginger Ale (Aromatic) of superior quality, and strongly recommended as a Non-Alcoholic and warm stimulant beverage.

N.B.—Every Bottle is protected by a distinctive Label, with Name and Trade Mark, and each Cork is branded.

Counter Bills and Analytical Reports, with Agents' Names and Addresses, supplied when requested.

A CERTIFICATE OF MERIT awarded by the British Sanitary Institute of Great Britain, after a deferred PRACTICAL TRIAL AND EXAMINATION, July 4th, 1879.

A CERTIFICATE OF MERIT, for superiority of quality, was awarded to Jewsbury & Brown at the Exhibition of Sanitary Appliances, at Owens College, Manchester, on the occasion of the Meeting of the British Medical Association, August, 1877.

JEWSBURY & BROWN, 44 Downing Street, 3 Grosvenor Street, and 113 Market Street, MANCHESTER.

NEW AND IMPORTANT DISCOVERY.

GINGER ALE

FROM PURE JAMAICA GINGER.

The difficulty of using Ginger in the Manufacture of "Ginger Ale," and at the same time having a CLEAR and SPARKLING DRINK, has, after much labour and expense, been thoroughly overcome by

Messrs. HARSTON & CO., of LEEDS,

And they are now able to place before the public a BRIGHT and SPARKLING DRINK, made purely from genuine Ginger Root.



THE ROYAL YORKSHIRE GINGER ALE,
From Pure Jamaica Ginger. Has wonderful nourishing properties.

THE ROYAL YORKSHIRE GINGER ALE,
From Pure Jamaica Ginger. Restores circulation; is warm and comforting.

THE ROYAL YORKSHIRE GINGER ALE,
From Pure Jamaica Ginger. Is Non-intoxicating.

THE ROYAL YORKSHIRE GINGER ALE,
From Pure Jamaica Ginger. For railway travelling, driving, or exposure to cold.

ABSOLUTELY PURE.

See Analysis by Drs. A. H. HASSALL, M.D., and OTTO HEHNER, F.C.S.

J. H. CUFF'S MINERAL WATERS, Atkinson St., Deansgate, MANCHESTER.

ESTABLISHED IN 1801.

SODA WATER (ordinary)	LEMONADE
SODA WATER B.P.	GINGER ALE
SELTZER WATER	GINGER BEER
LITHIA WATER	AERATED WATER
POTASS WATER	without alkali
15 grs., 20 grs., & 30 grs. (each half-pint)	QUININE TONIC WATER
LITHIA WITH POTASS WATER, &c., &c.,	

Supplied in ordinary and half-sized bottles and in syphons.

Cuff's Waters are prepared expressly for a High-class Family Trade.

**PRICES MOST REASONABLE.
LIST FREE ON APPLICATION.**

**CARRIAGE PAID ON FULL GOODS
AND RETURNED EMPTIES.**

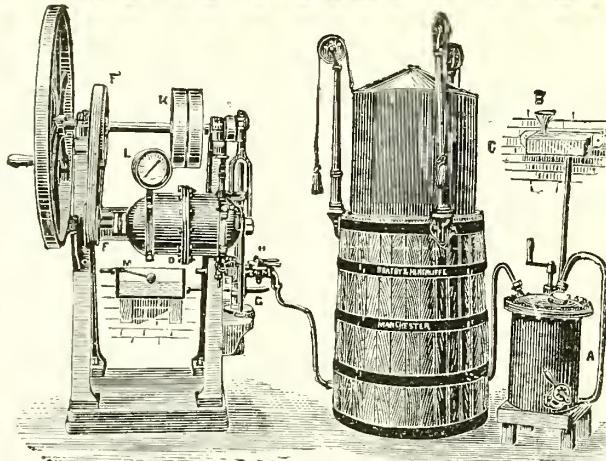
Cuff's Waters give universal satisfaction to Dealers and Consumers alike. Try them!

SODA WATER PLANTS.

For the convenience of parties about to commence in the trade, and small manufacturers, we have made arrangements with Messrs. Galloway to supply a smaller kind of their well-known Soda Water Machinery, complete with or without Gas Holder, Generator, and Bottling Rack, to fill any kind of patent bottle, or for cork bottles only. The Machines are made to work either by hand or power, and are adapted for any climate.

Intending purchasers should compare prices and workmanship with those of other makers.

Full Particulars & Descriptive Circular will be forwarded on application.



No. 1 PLANT, complete, makes 400 dozen per day, and is fitted with 1½-in. Pump and 2-gallon Cylinder, and also includes Gasometer and Generator.

Price £52 10s.
No extras.

No. 2 PLANT, complete, makes 600 dozen per day, and is fitted with 2½-in. pump and 4-gallon Cylinder, and also includes Gasometer and Generator.

Price £63.
No extras.

A Bottling Rack, for filling either patent bottles or cork, is supplied at an extra cost of

£10 10s.

Factories fitted complete, and all accessories supplied.

Instructions given.

Any portion of this Plant is sold separately. Prices on application.

BRATBY & HINCHLIFFE, Pott Street, ANCOATS, MANCHESTER.

LAMPLOUGH'S EFFERVESCENT PYRETIC SALINE.



HAVE IT IN YOUR HOUSES AND TRAVELS, USING NO OTHER SALINE;
it gives instant relief in Headaches, Sea or Bilious Sickness, and quickly cures the worst form of Eruptive or Skin Complaints. The various diseases arising from Constipation, the Liver, or Blood Impurities, Inoculation, the results of breathing air infected with Fevers, Measles, or Smallpox, are frequently prevented and certainly cured by its use.

The sale of these Saline Salts having greatly increased during the past few years, I beg most cordially to thank those who sell and recommend the same, and also to inform intending dealers that they will find Messrs. BARCLAY, EDWARDS, MAW, NEWBERRY, SANGER, SUTTON, and the Wholesale Houses generally, ready to supply their wants. This Advertisement is found needful in consequence of the trouble, cost, and inconvenience in the keeping and collection of numerous small accounts. Note.—The Name, Trade Mark, Labels, Wrappers, &c., are all Registered and Entered at Stationers' Hall.

113 HOLBORN HILL, LONDON, E.C.
PECIAL NOTICE.—Medical Gentlemen having fever cases, and desirous of trying the Saline, can have a single bottle at wholesale prices by sending their cards.



WILCOCKS' IMPROVED "ORIGINAL" SODA WATER MACHINE

(HAND POWER),

To make 100 Dozen per Day of highly-charged Gaseous Water,

£22 : 10 : 0

This Machine is on the continuous-process Bramah principle, has a good size Lead Generator, Copper Gas Holder in oak tub, with internal pipes of black tin; Bramah principle Gun-metal Pump in a frame of iron, with Fly-wheel, Crank, and Handles. Instead of the Gun-metal Cylinder or Condenser, with revolving Agitator and Toothed Gear-wheels, we substitute in this Machine a large Copper Condenser of about four times the size, with our Apparatus fitted to the Copper Condenser. We find the Waters are more highly charged with Carbonic Acid Gas by this method than any other way of saturation, and they are perfectly free from metallic contamination. This Machine is also strongly recommended for filling Syphon Bottles, and, if driven by a Motor (either a Gas, Air, Steam, or Water) Engine, the product is about double.

Wilcocks' "Original" Soda Water Machine, to make 100 dozen per day by hand power, with Dial and Water Gauges, Lead Generator, and Copper Gasometer £22 : 10 : 0

Packed for Export in extra-strong Iron-bound Cross Battened Packing Case, £3.

"Middlesex" Lever Corking & Filling Machine, for Corked Bottles £5 : 0 : 0

Wilcocks' "Eclipse" Filling Machine, for filling the various Patent Internal Stopper Bottles £4 : 10 : 0

Wilcocks' Syphon Filling Machine, for filling Syphons £4 : 10 : 0

Packing Case for each Filling Machine, separately, £1 5s. each.

If all three in one Case, £2.

Printed Testimonials and Illustrated Price List on application.

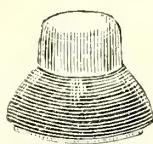
N. G. WILCOCKS, BACK STREET, BATH.

VALLET'S PATENT.

Fig. 1.



Fig. 3.



New Stopper.

The Stoppers are made in six different sizes—Nos. 1, 2, 3, 4, 5, and 6. Nos. 4, 5, and 6 are most suitable for general use, the Bottles adapted to which having sufficient capacity in the mouth to allow a copious flow of the liquid, whilst Nos. 1, 2, and 3 are specially made for Bottles which have only a small mouth, thus retarding the flow of the liquid, and causing the evaporation of the carbonic acid gas before the Bottle can be emptied.

FIG. 2.—THE STOPPED AND FITTED BOTTLE.



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All Communications to be addressed to
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TYNE VALE CHEMICAL WORKS, FORTH BANKS, AND SKINNER BURN ROAD,
NEWCASTLE-UPON-TYNE,

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ETHER { PURF, for Medicinal Purposes.
METH., for Ice Making, &c., &c.
METH., Trebly Refined, for Photographic Collodion, &c.
Quotations on application.

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Blanc Fixe (Baryta White).
Chloride of Barium. Sulphide of Barium.
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HORSLEY & FLOYD,

Box and Packing Case Makers and Circular Sawyers,

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TO DENTISTS AND CHEMISTS.—Every description of Artificial Teeth made at greatly reduced charges. Best work and best materials only.

An Upper or Lower Set, inclusive of Teeth Rubber, &c., £1 1s.
Ditto, ditto, on Platina, £2 2s.

Send for Price List.

Twenty years' experience in mechanical work.

LESSONS GIVEN IN MECHANICAL DENTISTRY.
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Prize Medals—
YORK, 1879. SYDNEY, 1879. MELBOURNE, 1880.

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THE
BRITISH SYPHON MANUFACTORY,
EUGSTER & KOERTGEN, Proprietors,
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WORKS: LAMBETH, S.E. **LONDON, E.C.**

SELTZOGENES.

3 pint size, wire, 13s.; cane, 13s. 6d.
5 " " 18s.; " 19s.
8 " " 30s.; " —
Silverplated top or wire, 5s. extra.
Drop Cups, Measures, &c.

LIBERAL DISCOUNT FOR QUANTITIES.

IMPORTANT.

In ordering our Seltzogenes through Agents distinctly state that you require the "Lion and Shield" Brand, and see that you get it, as often others inferior or are substituted. All our apparatus are stamped thus: **GUARANTEED** first-class



PERFECT, and of workmanship.

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Short Levers, 22 6; Long Levers, 24 per dozen net.

WHITE, BLUE, AMBER, OR GREEN BOTTLES.
CYLINDRICAL OR OVAL SHAPED.

SILVERPLATED TOPS FROM 8s. PER DOZEN EXTRA.

Name stamped on metal tops free for one gross.

Name and Trade Mark engraved on the bottles by the acid process from 1½d. to 2½d. each extra.

Soda Water Machinery.

NEW AND IMPROVED CONTINUOUS APPARATUS
With one or two Pumps.

GENERATORS, WASHING VESSELS, GASOMETERS,

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**SPECIAL ISSUE
OF
THE CHEMIST AND DRUGGIST,**

JANUARY 14, 1882,

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"A carefully-prepared beverage. . . . Pure, wholesome, and exhilarating. . . . The mineral matter held in solution is chiefly in the form of hypophosphites, of which each bottle contains about one grain."—*Extract from Analysis.*

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"Is undoubtedly one of the most desirable beverages introduced. The water, which forms the primary constituent, is exceptionally pure, and the scientific analysis is entirely satisfactory. The increasing popularity of Phosphodone testifies to the merits of this refreshing and invigorating drink, which has already developed into a widespread reputation in the Colonies and foreign parts."—*British Trade Journal.*

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"A much-prized preparation among consumers of non-alcoholic drinks. All Mr. Skinner's goods may be catalogued as refreshing, wholesome, and palatable . . . above the ordinary run of aerated waters."—*European Mail.*

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"Samples are seen of the materials employed . . . and the examination of these substances assists one in forming a high opinion of the articles produced, and of the certainty that purity and wholesomeness are fully maintained in every department of the manufacture."—*Sanitary Engineer.*

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The Medical Profession and other correspondents may be furnished with the Alkaline Strength of the Mineral Waters, and other important information, as well as detailed Analyses, Medical Commendation, Press Notices, Testimonials, and Scientific Authorities. See Analyses by Professors Wanklyn, Heiseh, &c.

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Retailed at 5/6 per dozen, Champagne Pints (bottles included).

Chemists may obtain advantageous terms from the Wholesale Agents.

PROPRIETOR: G. H. SKINNER, ST. KERRIAN WORKS, EXETER.

 PRIZE MEDAL awarded, International Food Exhibition, 1881; and Highest Award of Merit, Sanitary Institute of Great Britain, 1880; for Skinners' Aerated Waters.

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A DELICIOUS BEVERAGE.

The BRITISH MEDICAL JOURNAL says:—

"We can confidently recommend it to the attention of physicians and others who are occasionally at a loss what to direct their patients to take when parched by feverish thirst or depressed by exhausting ailments—notably in cases where alcoholic stimulants would be prejudicial. We feel that it would be found exceedingly useful in mitigating the discomfort oftentimes experienced by those suffering from the thirst, loss of appetite, and general *malaise* connected with the last stage of phthisis and chronic bronchitis. We would also, *from our observations and experience*, advise its introduction into clubs, taverns, and places of public amusement, where it would judiciously supersede vinous and alcoholic stimulants, seeing that it contains, as its name implies, life-giving ingredients in a form easily assimilated."

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The LANCET says:—"ZOEDONE contains the soluble phosphates of lime, iron, soda, and potash, in medicinal quantities. Very efficient and pleasant."

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DR. NORMAN KERR says:—I rejoice to see the continued growing favour of the public for your elegant and fascinating beverage, which I prescribe very extensively as a medicinal tonic, as well as recommend constantly as a pleasant social drink.

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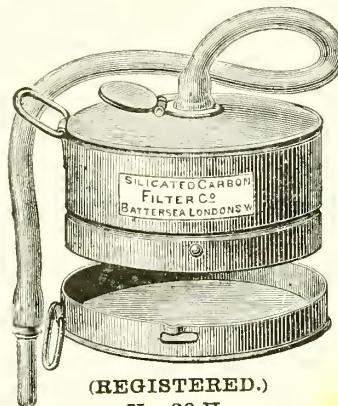
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IN GERMAN SILVER, NICKEL-PLATED.

Retailed at FIVE SHILLINGS each.

Designed by
MAJOR FRASER,
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ROYAL ENGINEERS,
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Weighs only 8 ounces.



It has been approved
by the
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Sample sent free by Post on receipt of FOUR SHILLINGS.

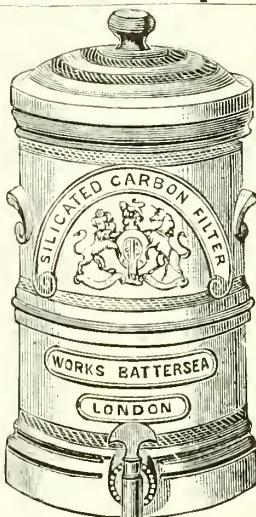
DOMESTIC

Made in cream-coloured Stone-ware, fitted with the Silicated Carbon Media, complete with Cover and Silver-plated Tap.

All sizes of this pattern can now be had with Ice Compartment, which renders this Filter the most perfect of Refrigerators.

FILTER, NO. 27.

PRICES.



With Ice
Compartment.

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No. A, " 1 "	14s. 6d.	... 17s. 6d.
No. B, " 2 "	21s. 0d.	... 25s. 0d.
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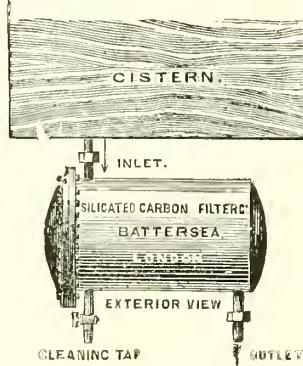
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Mansions, Schools, Hospitals, Public
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And all other Establishments where large quantities of

PURE WATER

Are required.

The ordinary Sizes kept in Stock are as follows :—

A, $\frac{1}{2}$ -inch or $\frac{3}{4}$ -inch pipe	£6 6s.
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This Filter is extremely simple in construction, and can be either connected with a Cistern or attached to the Main Service Pipe. It requires no attention beyond an occasional opening of the Cleansing Tap, and will deliver a supply of purified water at a rate of 50 to 1,000 gallons per hour, according to size.

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FOR PURIFYING THE WHOLE OF THE WATER SUPPLY OF A BUILDING BEFORE USE.
Ensuring Rapid and Perfect Filtration, at either High or Low Pressure.

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Gold Medal, Paris, 1878.

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Is guaranteed to be perfectly pure Cocoa only, the superfluous oil extracted.

"If properly prepared, there is no finer or more wholesome preparation of Cocoa."—DR. HASSALL.

"Strictly pure, and well manufactured in every way."—W. W. STODDART, F.I.C., F.C.S., *City Analyst*.

'Try also FRY'S CARACAS COCOA.—"A delicious preparation."

J. S. FRY & SONS, BRISTOL AND LONDON.

ESTABLISHED 1760.

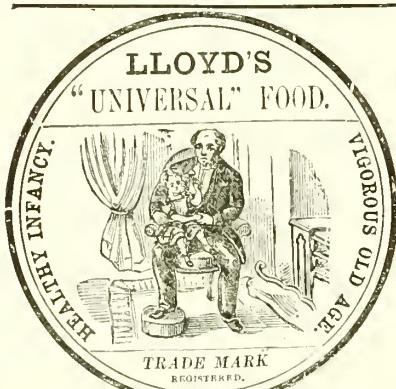
Contains three times the strength of ordinary Breakfast Beverages.

ONCE TRIED ALWAYS USED.

The valuable properties of the Dandelion Root, recognised by eminent Physicians for many centuries, has now become an article of daily use. Sold by all Chemists throughout the Kingdom in Tins at 1s. 6d., 1s., 9d., and 6d.—*Price Lists on application to the Manufacturers*,**PHILLIPS & SON,**
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**LLOYD'S
"UNIVERSAL" FOOD**
(*Patent Cooked Malted Farinaceous*),
THE NEW FOOD
FOR INFANTS, CHILDREN, AND ADULTS,
BOTH IN HEALTH AND SICKNESS:
REQUIRES NEITHER BOILING NOR STRAINING.

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This Food consists of the most nutritious and finest-selected cereal grains and pulse, combined with the active constituents of pure fresh malt meal, in such proportions as to render the mixture as nearly as possible chemically identical with the constituents of the human body itself. It is therefore valuable for everyday use, both in health and sickness, and for every condition of life; alike suited to the youngest child, the most robust adult, and the weakest invalid. Being thoroughly cooked, it is quickly and easily made; and being palatable, it is attractive, instead of, as so many foods are, repulsive. It is invaluable in all cases of weak digestion, confirmed indigestion and constipation.

EXCELLENT for Breakfast.
UNSURPASSED for Supper.
DELICIOUS as Baked Pudding.

NOURISHING as Custard, with
Stewed Fruit of all kinds.
INFANTS thrive Splendidly on it.

CHILDREN grow Strong on it.
ADULTS keep Well on it.
INVALIDS recover on it.

Analytical Report by Professor ATTFIELD, F.R.S., &c., Professor of Practical Chemistry to the Pharmaceutical Society of Great Britain, Dec. 16th, 1880.

"I have made a chemical analysis and microscopical examination of LLOYD'S 'UNIVERSAL' Food, a well-mixed and prepared meal. I find it to be a true food, rich in all the elements necessary to the formation of flesh, fat, bone, and muscle, and therefore greatly superior to mere starchy 'foods.' The elements are in a proper form, in a perfectly cooked form, and in natural proportions. The phosphates present equal fully two per cent. of bon phos plate. The nitrogenous or flesh-forming matter amounts to as much as fifteen per cent.

(Signed) JOHN ATTFIELD."

In Tins, at 1s., 2s., 5s., and 10s. each, less usual trade discount, of the Manufacturers,

J. & C. LLOYD & CO., Verulam Street, Gray's Inn Road, LONDON, E.C.

Product of a special refining process.

It is Chocolate devoided of its over-richness and substantiality.

Sugarless, and, when made, of the consistence of Coffee.

An afternoon Chocolate.

In packets, 6d. and 1s., and tins, 9d., 1s. 4d., 2s. 8d., 5s., or 7s. 6d. labelled.

JAMES EPPS & CO.,
Homeopathic Chemists,
LONDON.

EPPS'S

CHOCOLATE ESSENCE.

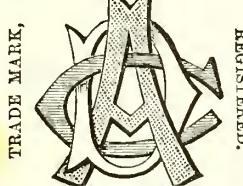
KOUMISS AND OTHER MILK PREPARATIONS.

"AWARD OF MERIT"

at the

International Medical and Sanitary
Exhibition,

South Kensington, August 1881.



SILVER MEDAL,

International and Colonial

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PREPARED BY THE AYLESBURY DAIRY COMPANY, LIMITED.

To THE AYLESBURY DAIRY COMPANY.

GENTLEMEN,—For some time past I have been in the habit of ordering KOUMISS for patients who required it, and since your KOUMISS was first brought under my notice I have used *that* and *that only* with the very best results. It is, in my opinion, an excellent preparation, pleasant to the taste, keeps well, is sent out in capital condition, and at a price that places it within the reach of all. So long as you continue to supply it in its present form I shall never care to obtain it from any other source. I have used it in hospital and in private practice, patients like it and speak well of it, and it has been most valuable in the treatment of typhoid fever, and in cases of extreme debility with irritable stomach, where it is so desirable to combine a slight stimulant with nutriment in its best and most easily assimilated form.—I am, Gentlemen, yours truly, WM. HY. PAYNE, M.D., F.R.C.P. Lond., Physician to Stroud General Hospital.

For Particulars apply to the Secretary,

STRoud, GLOUCESTERSHIRE, September 28th, 1881.

The AYLESBURY DAIRY CO., LIMITED, St. Petersburgh Place, Bayswater, London, W.

LATEST IMPROVEMENT IN FOOD FOR CHILDREN AND INVALIDS.

ŒTTLI'S FOOD.
THE MOTHER BRAND.



TRADE MARK (Registered).

ŒTTLI'S
SWISS MILK
FOOD,
For INFANTS,
CHILDREN,
and INVALIDS.
SOLD IN TINS.

ŒTTLI'S FOOD.

The basis of this Food consists of—

1. Pure Swiss Cow's Milk.

2. Gluten or Vegetable Fibrin of Wheat.

It is a perfect substitute for Mother's Milk, and can be easily digested by Infants and Children, all starchy parts of the Wheat being transformed by a series of operations into dextrine before it is ground or mixed with milk. Manufactured in Switzerland.

Special Advantages of this Food:—“Easily digested without flatulence, and of prompt assimilation; prevention of Constipation; removal of Convulsions and Headaches; formation of firm flesh, good sound blood, and fine but strong bones; absence of spurious fatness and of heaviness in the head.”

The following are a few of the Testimonials with which we have already been honoured:—

58 Brook Street, Grosvenor Square, W., 27th Oct., 1881.

GENTLEMEN,—Paying special attention to diseases of children, I have for several years been wanting to meet with a food specially adapted for very young infants when their natural sustenance fails or disagrees—something that could be given at once, and that might be depended upon to suit. In Ettli's Food, as supplied by your firm, I find just what I require. By its use infant mortality should be reduced to a minimum.

(Signed) R. S. GUTTERIDGE, M.D.,

Late Physician to the Metropolitan Dispensary and the Home for Diseases of Women,
Physician to the Duke Street Dispensary for Consumption, &c.

43 Manor Road, New Cross, S.E., 4th October, 1881.

GENTLEMEN,—I have ordered Ettli's Food in cases of infantile diarrhoea from teething and for children who have been brought up by hand, and invariably with benefit. I consider it a very nutritious and easily digestible food.

(Signed) C. T. BROOKHOUSE, M.D.

Prepared by THE SWISS MILK AND FOOD CO., Lausanne, Switzerland.

Sole Importers—R. LEHMANN & CO., 106 Fenchurch Street, E.C.

NESTLE'S MILK FOOD.

THE
"PERFECT FOOD FOR INFANTS."

NESTLE'S MILK FOOD is prepared at Vevey, Switzerland, from the pure milk of Alpine-fed cows, the finest wheaten flour and sugar, combined in exact proportions to imitate closely the natural food for infants. It is thoroughly cooked, and reduced to a fine powder, perfectly soluble in water, requires only the simple addition of water to prepare it for use—in this respect having the advantage over all other foods.

NESTLE'S MILK FOOD is highly recommended by the best medical authorities in all parts of the globe as a perfect diet. Nestle's is the original and genuine Milk Food or Powder. The extensive demand for this Food, its well-known superiority and universal recognition by the medical profession, has produced the inevitable imitations. The Trade and the Public are hereby cautioned. Nestle's Milk Food has stood the test of years. Take no other under any pretence whatever.



TRADE MARK
Registered

NESTLE'S MILK FOOD is put up in Tins, packed in lined cases when ordered specially for the Export Trade. Is highly concentrated, and in a perfectly dry state. Will keep good in any climate.

For exportation the Food is a very desirable article, and is much sought after among people of all nationalities in all parts of the globe. Its advantage as an article for export consists in

**Its uniform quality. Its purity. The simplicity of its preparation for use.
Its freshness in warm climates, where cow's milk soon becomes tainted.**

Foreign and Colonial Importers should obtain their supplies through any Wholesale Firm in Great Britain, or Shipping Agent, thus ensuring fresh stock and lowest prices.

LONDON DEPOT: 9 SNOW HILL, E.C.

E. LAZENBY & SON (16 EDWARDS STREET, PORTMAN SQUARE.) Sole Proprietors of the Celebrated Receipts and Manufacturers of the Pies, Sauces and Condiments so long and favourably distinguished by their name, beg to remind the public that their labels are affixed to the choicest description of goods only, that every article prepared by them is guaranteed as entirely unadulterated and may be obtained of Grocers, Italian Warehousemen and others.

HARVEY'S SAUCE.—CAUTION.—The admirers of this Celebrated Sauce are particularly requested to observe that each bottle bears the well-known label signed "ELIZABETH LAZENBY"; this label is protected by perpetual injunction in Chancery of the 9th July 1858 and without it none can be genuine.

18 TRINITY STREET, LONDON. S.E.

Elizabeth Lazebry

G NELSON'S
PURE BEEF TEA
SOLD IN HALF-PINT PACKETS.

Samples and Prices on application to the Manufacturers,

GEORGE NELSON, DALE & CO.,
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MAWER'S TARAXACUM COFFEE,

PREPARED BY AN IMPROVED PROCESS BY WHICH THE VIRTUES OF THE TARAXACUM OR DANDELION ROOT ARE RETAINED IN A HIGH DEGREE.

In Tins, 6d., 9d., 1/0, and 1/6.

Is by far the best in the market. Excellent in quality, neatly packed, cheap and economical, and a very saleable article.

BEWARE OF WORTHLESS IMITATIONS.

Wherever this superior preparation is introduced, Chemists find a ready and increasing sale.

AGENTS WANTED THROUGHOUT ENGLAND AND THE COLONIES.

SOLD BY NEARLY ALL FIRST-CLASS HOUSES.



BEWARE OF IMITATIONS.

MAWER'S TARAXACUM COFFEE. — *Testimonal.* — "Lady Charlotte Hobart-Hampden has bought Mr. Mawer's Taraxacum Coffee for over a year and a half, and is able to say that it is much preferred here to the other kinds of Coffee, and that it is found more economical. Hampden House, Bucks."

See Analytical Report by Professor ATTFIELD, F.R.S., &c., Professor of Practical Chemistry to the Pharmaceutical Society of Great Britain, on every tin.
Handbills, &c., sent on application to

MAWER & CO., HIGH WYCOMBE.

SPECIAL NOTICE & CAUTION.

BRAND & CO.

The Original Manufacturers of Essence of Beef (green label under wrapper), and other Specialities for Invalids, have

NOT REMOVED

From their SOLE ADDRESS, No. 11 LITTLE STANHOPE STREET, MAYFAIR, W., and caution the trade to

BEWARE of IMITATIONS.



MUSTARD. FINCH, RICKMAN & CO.'S Genuine Qualities

Are made from the finest mustard seeds only. Their compounds, as manufactured for upwards of a century, are guaranteed free from all ingredients imparting spurious heat, and are therefore equally suitable for both table and medical purposes.

**6 BROKEN WHARF, UPPER THAMES STREET,
LONDON.**

CHEMISTS' TEA AGENCY.

WALKER & DALRYMPLE'S

BROKEN-LEAF TEA, 1s. 8d. per lb.

A MONEY SAVING TEA. ABSOLUTELY PURE.

The small leaf from some of the finest India and China Teas. Produces a Tea in the cup, stronger, richer, and cheaper than most whole-leaf Teas. Agents appointed, where unrepresented, throughout the United Kingdom.

WALKER & DALRYMPLE'S

INTERMEDIATE TEA, 2s per lb.

BEST at the PRICE EVER SOLD. Great strength and a most useful Tea where there is a large consumption. Recommended to all who wish to SAVE in their Tea. Agents appointed, where unrepresented, throughout the United Kingdom.

WALKER & DALRYMPLE'S TEAS.— AGENTS APPOINTED, where unrepresented, throughout the United Kingdom.

Prospectus and Samples Free on Application.
Warehouses, 154 and 155 WHITECHAPEL ROAD, LONDON.
P.O. payable at head office. Bankers, the National Provincial Bank of England.

M. A. CRAVEN & SON, WHOLESALE AND EXPORT CONFECTIONERS,

MAKERS OF

Medicated Lozenges, Refined Liquorice, Jujubes, and every description of Confectionery,
IMPORTERS AND MANUFACTURERS OF LEMON, ORANGE, AND CITRON PEELS.

EBOUR CONFECTIONERY WORKS,
YORK.

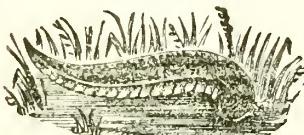
Lozenges of all descriptions made from Customers' private formulæ (or ingredients), and stamped with any name or device.

SPECIALITIES—Cough, Peppermint, Rose, Musk, Boquet, Cachou, and all kinds of Medicated Lozenges.
ESTABLISHED 1843.

PRICE LIST ON APPLICATION.



HAMBO SPECKLED.

**LEECHES!**

Warranted Healthy, Wholesale
and for Exportation, Direct
from Marshes.

FITCH & NOTTINGHAM,
Leech Breeders,

MARSEILLES, & 55 PENTONVILLE
ROAD, LONDON, N.

TRADE MARK
REGISTERED.

All Orders by Post receive immediate attention.

RANDALL'S BLACK CURRANT LOZENGES.

Net Cash. To Acct.

	l.	d.	l.	d.	
Plain Black Currant, old square	..	2	6	2	8
" " rough oval	..	2	6	2	8
Black Currant and Ipecacuanha	..	2	6	2	8
Black Currant and Tannin..	..	3	0	3	3
Black Currant Voice (warm astringent)	..	3	0	3	3
Black Currant Cough Lozenges*	..	3	6	3	10

(*Ipecac, and Morph., strength as "B. P.")
In Bottles, 1 lb., 2 lbs., 4 lbs., and 7 lbs. For Exportation, in soldered tins, of any size, From EDWARDS, London; through any Wholesale House; and from the Manufacturers,

RANDALL & SON, Southampton,

Who will forward Samples by post on application.

Also, BROWN COUGH LOZENGES, 2s., 2s. 2d.; 7 lbs. stamped with name free, and MUSK LOZENGES (Special) 2s. 6d., 2s. 8d.

N.B.—Medical Lozenges of every kind,
Including those of the Pharmacopœia of the Hospital for Diseases of the Throat, London.

GIBSON'S**DELECTABLE JUJUBES, VOICE JUJUBES, AND GLYCERINE PASTILLES,**

Put up in 4-lb. Decorated Tins with Glass Lids, *TINS FREE*, are now being inquired for by buyers from all parts of the world. They are not surpassed in quality by any maker, and give entire satisfaction.

MEDICATED and HIGH-CLASS LOZENGES, of every kind.

Sent out in 2-lb. or 4lb. Bottles, Bottles Free; or in Tins, from 10 lb. upwards.

LIME JUICE TABLETS. THIRST QUENCHERS.

ACID DROPS, AND BEST QUALITY BOILED SUGARS OF EVERY KIND.

GIBSON'S ORIGINAL CHLORODYNE LOZENGES.

PENNY SUGAR WORM CAKES, suitable for either children or adults. Have an immense sale, keep in any climate, and please everybody. Manufactured by

ROBERT GIBSON, Carlton Works, Hulme, Manchester, and 1 Australian Avenue, London.

Price Lists sent on application. Our Goods can be bought through any Wholesale or Export House in London.

THE "DESIDERATUM" MIXING MACHINE

P. H. BRACHER & CO.,

77 HIGH STREET, WINCANTON.

FRENCH PATENT SCREW GLASS POTS & BOTTLES, WITH METALLIC NICKLED CAPSULES.



The above new method will show advantageously Jams, Jellies, Honey, Drapés, Cachous, Pills, Lozenges, &c., is specially adapted for Export, and excels all others for neatness and elegance. Made in various new Designs—Pots, "Kalis" tube-shaped Bottles, Bocals, &c. Spécialité for Bottles for all kinds of Confectionery, Essences Manufacturers, and Sundries. (Wholesale only.)

THE LARGEST ASSORTMENT IN ENGLAND.

G. V. DE LUCA, French Flint Glass Manufacturer, 21 Jewin Crescent, LONDON, E.C.
TO BE HAD OF ALL DRUGGISTS' SUNDRIESMEN.

KORFF'S PURE CHOCOLATE POWDER.

Of all the Wholesale Houses, and
E. A. PHILLIPS & CO., 23 GREAT ST. HELEN'S, LONDON, E.C.

33/- per Dozen Pound Tins.
17/- " " Half-Pound Tins.
9/- " " Quarter-Pound Tins.

NOTE THE PRICE

LIEBIG'S EXTRACT OF MEAT.

Prepared according to Baron Liebig's own Instructions.

7 lb. Tins	.. .. ..	$\frac{1}{2}$ lb. Jars	.. .. ..	45/- per doz.	2 oz. Jars	.. .. ..	.. .. ..	12/4 per doz.
1 lb. Jar	.. .. ..	4 oz. do.	.. .. ..	87/- per doz.	23/3 dr.	1 oz. do.	.. .. ..	6/9 do.

Flavoured Extract of Meat, 6d. per lb. less. Solid Essence of Meat, 1 lb. Jars, 4s.; $\frac{1}{2}$ lb. Jars, 4s. 3d.; $\frac{1}{4}$ lb. Jars, 4s. 6d. per lb.

10 lb. weight Carriage Paid. Packages Free. Orders of 50 lbs. 7½ per cent. off.

Also Beef, in 2 lb. tins, at 10/- per doz. Corned Beef, in 2 lb. tins, at 10/6 per doz. Mutton, in 2 lb. tins, at 12/6 per doz.

THE AUSTRALIAN (RAMORNIE) MEAT CO., 52 & 53 CRUTCHED FRIARS, LONDON.

NOTE THE PRICE

THE PURE FOOD COMPANY'S

Preparations and Manufactures of various Articles of Food
of Daily Consumption,

Including especially those required by INVALIDS.

CONCENTRATED BEEF-TEA, &c.
EXTRACT OF COFFEE, &c.



TRADE MARK.

MILK FOODS, &c., FOR INFANTS,
CHILDREN, AND INVALIDS.

ALL BEING GUARANTEED OF ABSOLUTE PURITY AND OF THE FINEST QUALITY.

For Price List and further particulars, apply to

THE PURE FOOD COMPANY, 4 PRINCES STREET, RED LION SQUARE, LONDON.

PATENT CALIFORNIAN BORAX.

TRADE LISTS, BORAX USES, DESCRIPTIVE PAPERS, &c., POST FREE.

"A large supply of illustrated handbills accompanies each box, and doubtless a large trade can easily be done where these goods are introduced."—*The Grocer*.

Full Directions for Laundry, Household, Washing, Toilet, Medicinal, Sanitary, and other uses, with each 1d., 3d. & 6d. Packet.



"Of the greatest value to mankind, but not sufficiently known."

"A marvellous Antiseptic no Housewife should be without."

"Our Country has given to the world the wealth of its mines of gold and many other wonderful products, but none equal in value to this 'NEW AND IMPORTANT DISCOVERY,' adapted for every Personal, Domestic, Cleansing and Sanitary Purpose."—*Californian Alta*.

THE LANCET speaks very highly of the value of Borax.

CAUTION.—This and other valuable Preparations are manufactured only by the Sole Patentees, THE PATENT BORAX COMPANY, Birmingham.

The Company regret the necessity of publishing this caution, but it is needful, as many comparatively worthless imitations are now being offered.

Extract from "THE CHEMIST AND DRUGGIST."

AN APOSTLE OF CALIFORNIAN BORAX—"We have before had the pleasure of introducing Mr. Arthur Robottom to our readers, and some of them may remember a lively narrative he gave in our pages a couple of years back of his borax journeyings in California. Mr. Robottom is a veritable enthusiast, and it is refreshing to meet with one such now. He has just been in this office, and told us marvellous tales of the virtues of his fetish—how it softens the hands in the washing, or the beard in shaving; whitens linen, and cleanses it far better than soda, beside that it never rots it; kills all deleterious insect life, but preserves all that is worthy to live; rapidly heals all ulcers or festering wounds; purifies children's heads; cures sore throats; removes insects from vines; prevents incrustation on steam boilers; preserves meat, and all animal or vegetable matter liable to decay; prevents tooth-ache; cleans sponges; brings the flavour out of tea; and, in fact, MAKES ITSELF GENERALLY USEFUL."

PATENT BORAX CO.,
WORKS, BIRMINGHAM; AND 26 WORSHIP STREET, LONDON, E.C.
Also at California, Tiflis, Dublin, Edinburgh, and Paris.

PATENT PLUMBAGO CRUCIBLE COMPANY

(SOLE MANUFACTURERS OF MORGAN'S PATENT CRUCIBLES).

EXHIBITION AWARDS:-

Paris, 1878, Gold Medal.

Only Medals in London, 1862. Dublin, 1865. New Zealand, 1865. Oporto, 1865.
Paris, 1867, only First-Class Medals (Silver). Havre, 1868 (Silver). Amsterdam, 1869 (Highest).

Moscow, 1872, only First-Class (Gold).

Philadelphia Centennial Exhibition, Medal.

CLAY CRUCIBLES, ETC.

EXTERIOR DIMENSIONS.

Attention is drawn to the description on the Crucibles below, and in ordering these particulars should be given to prevent errors and disappointments.

BATTERSEA ROUND.

Stamped as on Illustration.



No.	Height, inches	Width, inches	Crucibles, per doz.	Covers, per doz.	No.	Height, inches	Width, inches	Crucibles, per doz.	Covers, per doz.
A	2 ¹ / ₂	1 ¹ / ₂	£0 0 5	0/6	B	3	1 ¹ / ₂	£0 0 6	0/6
C	3 ¹ / ₂	2 ¹ / ₂	0 0 9	0/6	D	4	2 ¹ / ₂	0 0 10	0/6
E	4 ¹ / ₂	2 ¹ / ₂	0 1 4	0/9	F	5	3	0 1 5	1/0
G	5 ¹ / ₂	3 ¹ / ₂	0 2 0	1/0	H	5 ¹ / ₂	3 ¹ / ₂	0 2 1	1/3
J	6 ¹ / ₂	4 ¹ / ₂	0 3 0	1/6	K	7 ¹ / ₂	4 ¹ / ₂	0 3 2	2/0
L	8	5 ¹ / ₂	0 5 6	2/0	M	8 ¹ / ₂	5 ¹ / ₂	0 6 6	2/6
N	9 ¹ / ₂	6 ¹ / ₂	0 9 0	3/0	O	10	7	0 13 6	3/6
P	11	7 ¹ / ₂	0 15 0	3/6	Q	12	8 ¹ / ₂	0 17 0	4/0
R	13	9 ¹ / ₂	1 3 0	5/0					

The above 9 sizes form one nest. Price 60/- per dozen nests. Any size can be had separately.

The above 8 sizes form one nest. Price 45/- per dozen nests. Any size can be had separately.

BATTERSEA TRIANGLE.

Stamped as on Illustration.

No.	Height, inches	Width, inches	Crucibles, per doz.	Covers, per doz.	No.	Height, inches	Width, inches	Crucibles, per doz.	Covers, per doz.
S	4 ¹ / ₂	4 ¹ / ₂	£0 2 0	1/0	T	4	3 ¹ / ₂	£0 1 6	1/0
U	3 ¹ / ₂	3 ¹ / ₂	0 1 1	0/9	V	3 ¹ / ₂	2 ¹ / ₂	0 0 10	0/9
W	2 ¹ / ₂	2 ¹ / ₂	0 0 8	0/6	X	2 ¹ / ₂	2 ¹ / ₂	0 0 6	0/6
Y	2 ¹ / ₂	2 ¹ / ₂	0 0 5	0/6	Z	1 ¹ / ₂	1 ¹ / ₂	0 0 4	0/6

The above 4 sizes form one nest. Price 4/- per dozen nests; but a smaller size can be had to fit in the Y, making the complete nest of 5, at 4 1/5 per dozen nests. Any size can be had separately.

The above 4 sizes form one nest. Price 3/- per dozen nests; but a smaller size can be had to fit in the Z, making the complete nest of 5, at 3 1/5 per dozen nests. Any size can be had separately.



ASSAY CRUCIBLES.

THE MINT OF THE UNITED STATES AT SAN FRANCISCO,

OFFICE OF THE ASSAYER,

SAN FRANCISCO, CAL., April 19, 1877.

Sirs,—I have tested and used the Assay Crucibles and Annealing Cups, and can with assurance recommend their superior quality and durability.

Respectfully yours, &c.,
O. D. MUNSON, Assayer.

STATE ASSAY OFFICE,
SAN FRANCISCO, May 1, 1877.

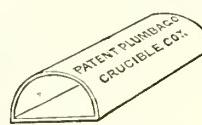
We have given the Crucibles and Muffles a fair trial, and can recommend them for use of Assayers and Chemists.

Yours, &c.,
FALKENAU & REESE.

Among the English Firms who have received Awards at the Centennial, Philadelphia, are the Patent Plumbago Crucible Company, Battersea Works, London, for Jewellers' and Chemists' Furnaces, Mufflers, Crucibles, and Scorifiers.—*Chemist and Druggist*.

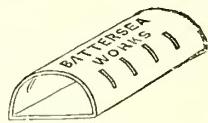
Other particulars on application to

PATENT PLUMBAGO CRUCIBLE CO., BATTERSEA WORKS, LONDON, S.W.



MUFFLES.

With or without apertures.



Long, in.	Wide, in.	High, in.	Price, per doz.	No. Long, in.	Wide, in.	High, in.	Price, per doz.
A. .. 7 ..	3 ¹ / ₂ ..	2 ¹ / ₂ ..	12s. G. .. 11 ..	4 .. 3 ¹ / ₂ ..	2 ¹ / ₂ ..	21s.	
B. .. 7 ¹ / ₂ ..	4 ¹ / ₂ ..	2 ¹ / ₂ ..	15s. H. .. 10 ¹ / ₂ ..	5 ¹ .. 3 ¹ / ₂ ..	3 ¹ / ₂ ..	25s.	
C. .. 8 ..	4 ¹ / ₂ ..	3 ..	18s. J. .. 12 ..	6 .. 4 ..	3 ..	33s.	
D. .. 8 ¹ / ₂ ..	5 ..	3 ¹ / ₂ ..	21s. K. .. 14 ..	8 .. 5 ..	4 ..	48s.	
E. .. 9 ..	5 ¹ ..	3 ¹ / ₂ ..	24s. L. .. 16 ..	9 .. 6 ..	6 ..	54s.	
F. .. 10 ..	6 ..	4 ..	27s.				

Sizes A to F are suited for the Furnaces of the same letters.

G to L have one slit at back only, none at sides.

In addition to those priced above, Muffles are made of all shapes and sizes, suitable for Assayers, Enamellers, Dentists, &c.

SCORIFIERS.

(PER GROSS.)

Inches Diam.	Price.	Inches Diam.	Price.
1 ..	3s. 0d.	2 ¹ / ₂ ..	6s. 0d.
1 ¹ / ₂ ..	3s. 6d.	3 ..	7s. 6d.
1 ³ / ₄ ..	4s. 0d.	3 ¹ / ₂ ..	9s. 0d.
2 ..	4s. 6d.	4 ..	10s. 6d.
2 ¹ ..	4s. 6d.	5 ..	12s. 0d.
2 ³ / ₄ ..	5s. 0d.		



ROASTING DISHES.

No. Diam. in.	Per doz.	No. Diam. in.	Per doz.
1 .. 2 ¹ / ₂ ..	1s. 3d.	3 .. 4 ..	1s. 9d.
2 .. 3 ..	1s. 6d.	4 .. 5 ..	2s. 0d.

No. Diam. in.	Per doz.	No. Diam. in.	Per doz.
1 .. 2 ¹ / ₂ ..	1s. 3d.	3 .. 4 ..	1s. 9d.
2 .. 3 ..	1s. 6d.	4 .. 5 ..	2s. 0d.

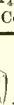
Covers for either size, 6d. per doz.

2.—FOR COPPER.

CORNISH FORM AND QUALITY.

Nest of Two { 3 ¹ / ₂ in. high, 3 in. diam. }	2s. per doz.
Single .. 2 .. 2 ¹ / ₂ .. 1s. ..	" "

All Forms and Sizes can be had.



TRADE

MARK.

FOSSILINE

A bland, odourless, perfectly pure Hydro-Carbon Jelly, of greater smoothness, firmer consistency, and better appearance than any other Petroleum Jelly.

SAMPLES POSTAGE FREE ON APPLICATION.

PRICES—In 7-lb., 14-lb., and 28-lb. Tins, 8d. per lb.; in 56-lb. and 112-lb. Drums, 7d. per lb.
Tins and Drums free.

We also Manufacture a **VETERINARY FOSSILINE**, which, at the low price we offer it, can be used for Smearing Purposes; also for Veterinary Ointments, &c.

PRICES—In ½-cwt. and 1-cwt. Drums, 56/- per cwt. Drums free. Subject to usual Discount.

FOSSILINE (SIMPLE)

As a **REMEDIAL AGENT** the properties of FOSSILINE are not to be excelled. Physicians have found it invaluable as a basis for Ointments, &c, and as a vehicle for employing the most prized and potent medicines. It is now used in the leading Hospitals in Europe and Canada. It CANNOT BECOME RANCID, and as an **EMOLlient** it is undoubtedly the best yet discovered, being far superior to Glycerine, Cold Cream, or Camphor Balls in softening and healing properties. As a **HOUSEHOLD REMEDY** it is recommended as an application to Burns, Cuts, Bruises and Sprains, Sunburns, Chilblains and all other Skin Diseases, and the Bites of Poisonous Insects.

Sold in Bottles, One Shilling each; 8/- per dozen.

The following preparations may also be obtained:—

SAVAR'S FOSSILINE POMADE

Prevents the hair from falling off, and as a smaller quantity is sufficient for use, it is the most economical Hair Dressing known.

Sold in Three-Ounce Stoppered Bottles, One Shilling each; 8/- per dozen.

Also in Sixpenny Bottles; 4/- per dozen.

TOILET FOSSILINE SOAP

Highly emollient and economical, the most agreeable Soap.

In Tablets, 6d. each; or in 1/6 and 5/- Boxes; 4/-, 13/-, and 48/- per dozen.

These Toilet Requisites are exquisitely perfumed with the delicate odours of the Montserrat Lime Tree Blossoms.

SAVAR'S FOSSILINE PLASTER,

Invaluable for use in Hospitals, and generally as a substitute for other Plasters, for the following reasons:—

1st. It is more pliable, it will adhere more readily without the application of heat, and will remain on the required spot. 2nd. It can easily be removed for the inspection of wounds, or redressing; and, unlike ordinary Plaster, does not soil the hands or the part to which it is applied. 3rd. It is cooling and healing to wounds, it stimulates the granulation to a healthy action, and is of great service as an application to bed sores.

PRICES—9/- per dozen Yards on Soft Calico; 12/- per dozen Yards on Brown Holland; or in Boxes to Retail, 9d. each, 6/- per dozen. Subject to usual Discount.

CORN FOSSILINE PLASTERS

Are emollient and cooling, and as they do not require wetting or warming, are easily applied.

In Bulk (½ gross glass-top Boxes), 3/6 per gross; and in Boxes, Retail 6d. and 1/- each, 3/6 and 7/- per doz.

SUBJECT TO THE USUAL DISCOUNT.

Be sure to ask for FOSSILINE and SAVAR'S preparations of it, and see that you get them, and not any others SAID TO BE of a similar nature. See that the Trade Mark is on the label.

SOLE PROPRIETORS,

EVANS, SONS & CO.,

56 Hanover Street, Liverpool.

H. SUGDEN EVANS & CO., Montreal, Canada, and Rouse's Point, New York.

EVANS, LESCHER & WEBB,

60 Bartholomew Close, London.





W. H. BAILEY & SON,
38 (late 16) OXFORD ST., LONDON,
Six Doors from Hanway Street.
ESTABLISHED A.D. 1833.

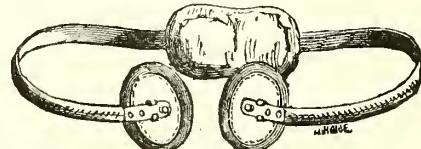
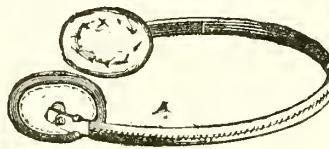
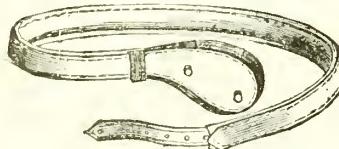


FIRST PRIZE (SILVER MEDAL) FOR TRUSSES AWARDED BY THE WORSHIPFUL COMPANY OF CUTLERS OF THE CITY OF LONDON, MAY, 1879.

FIG. 1.

FIG. 4.

FIG. 5.

**TRUSSES.**

Circular Trusses, single, as Fig. 1, basil and chamois or basil and moleskin

per doz. £1 1 0

Circular Trusses, double, basil and chamois or basil and moleskin

per doz. 1 14 0

" " with extending backs

per doz. 2 14 0

Salmon & Ody's Expired Patent, single, Fig. 4

per doz. 1 10 0

Mac-Main Lever, single

double

each 0 8 0

Coler's Expired Patent, single

double

each 0 5 6

Scrotal Trusses, basil and chamois or moleskin, single

double

each 0 10 6

" " double

each 0 4 0

" " double

each 0 7 0

SUSPENSORY BANDAGES.

No. 1. Cotton Bags and tape under-straps

per doz. 0 8 0

2. Cotton Oxonian, with drawing-strings

per doz. 0 10 0

3. Silk Bags and tape under-straps

per doz. 1 1 0

4. Silk Oxonian, with drawing-strings

per doz. 0 18 0

5. " " Bags bound with elastic

per doz. 1 4 0

SUSPENSORY BANDAGES—continued.

No. 6. Silk Oxonian, superior quality, bands of buff jean, with drawing-strings

per doz. £1 4 0

7. Silk Bags, to button on, with tape under-straps

per doz. " 1 1 0

8. " " under-straps to button

per doz. " 1 4 0

ELASTIC STOCKINGS, KNEE-CAPS, ETC.

Manufactured expressly for Export, and warranted to stand a hot climate better than any others in the Market.

Stockings

per pair 0 9 6

Knee-caps

0 6 6

Calf-pieces

0 7 0

Socks

0 5 6

Wristbands

0 2 2

Knee Stockings

0 16 0

Belts, to draw on

0 16 6

Silk.	Super. Silk.	Cotton.	Super. Cotton.
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£ s. d. £ s. d. £ s. d. £ s. d.

0 5 6 0 6 10 0 6 10 3

0 3 8 0 5 9 0 5 9

0 4 4 0 5 9 0 4 9

0 3 6 0 4 9 0 4 9

0 1 6 0 2 1 0 2 1

0 9 2 0 12 1 0 12 0

The above may be obtained direct from the Manufacturers, or from their Wholesale and Export Agents
Messrs. Barclay & Sons, 95 Farringdon Street.

COLTHURST & HARDING,

PHÆNIX COLOUR WORKS, BRISTOL,

Also Petroleum and Benzoline Stores at Gloucester,

MANUFACTURERS OF

WHITE LEAD, PAINTS, AND COLOURS

Of

all kinds;

Also VARNISHES of every Description

For Painters, Coachbuilders, and Japanners,

packed in Casks and Tins of all sizes.

PAINTS IN TINS

TRADE

Ball denotes



MIXED FOR USE.

MARK.

Colour of Paint.

All Colours in 1, 2, 4, 7, and 14 lbs.

All Colours in 1, 2, 4, 7, and 14 lbs.

SOFT SOAP, GREASES, LINSEED

MEAL, AND CRUSHED LINSEED

IMPORTERS OF

Petroleum, Benzoline, Gasoline, Turpentine, Olive, Colza, Cod, Castor, Seal, Whale, and Sperm Oils; Tallow, Fitch, Rosin, &c., &c. Sole Proprietors of the

CELEBRATED ELECTRIC LIGHT OIL

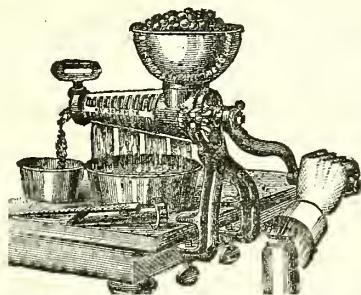
The most beautiful and perfect Illuminator.

OIL REFINERS AND DRYSALTERS.

BURROUGHS, WELLCOME & CO.,

IMPORTERS, EXPORTERS, AND MANUFACTURING CHEMISTS,
SNOW HILL, LONDON, E.C.,

OFFER THE FOLLOWING ARTICLES OF KNOWN
MERIT:—



THE "BURROUGHS" HAZELINE.

Active principles distilled from the Bark of Witch Hazel.
(Hamamelis Virginica, Lin.)

Eminent medical authorities commend "Hamamelis Virg." in treatment of Hemorrhages, Inflammations, &c., and with Practitioners in America it has very generally supplanted the use of Arnica. Hazeline may be used internally or externally without dilution, except for the eyes or as an injection, in which cases it should be mixed with three times its bulk of water.

DOSE—Half teaspoonful. In all cases it is perfectly harmless.
14/- and 40/- per dozen. Usual discount.

LAWTON'S ABSORBENT COTTON.

Mr. THOS. BRYANT writes:—"One of the most valuable introductions into surgical practice of the present period."



"The Burroughs Inhaler is an ingenious and convenient device for inhaling chloride of ammonia fumes; by its use the chloride of ammonium is brought in more intimate contact with the mucous surfaces of the passages of the nose and throat than by any other form of inhaler."—*Medical Press and Circular Report.*

KEPLER MALT EXTRACT.

(Concentrated and Non-Alcoholic.)

"An agreeable and reliable substitute for Cod-liver Oil."—ZIEMSEN.
"An effective digester of starchy or farinaceous foods."—Dr. ROBERTS.

KEPLER COD LIVER OIL WITH MALT EXTRACT.

A concentrated, Nutritious, Digestive Food. (Contains
50 % Malt Extract.)

"The taste of the oil is agreeably disguised. Its nutritive powers are greatly increased, and it is rendered easy of digestion."—*British Medical Journal.*

CAPSULED

MCK. & R.



P I L S.

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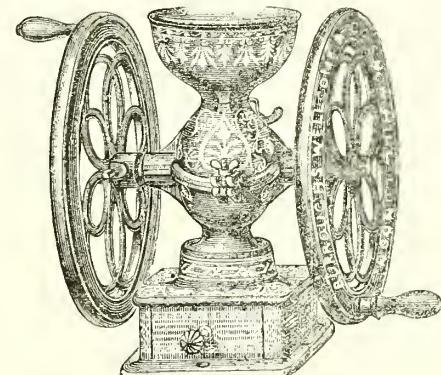
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Literary Contents.

PAGE	Editorial Notes—cont.	PAGE	
Pharmacalia	514	Co-operative Shopkeeping	537
Prof. Attfield on a Curriculum	514	Railway Rates for Drugs	538
Pharmaceutical Council	514	Window-dressing	538
Pharmaceutical Society of Ireland	516	The Chemists' Ball	538
Metropolitan Reports	517	Quinine in America	539
Provincial Reports	518	Extension of Colonial Trade	539
Pharmacopœia Revision	518	Malt Extract	540
Godfrey's Cordial	520	Reviews and Literary Notes	541
Railway Rates	521	Iuce's Latin Grammar of Pharmacy	541
Artificial Digestive Agents	521	International Homeopathic Congress	541
Pharmacy in Australia	523	Notes of Novelties	543
Prof. Attfield on a Curriculum	524	Trade Notes	544
Miscellaneous Formulae	527	Personalities	544
Scientific Notes	528	Patents	545
Miscibility of Gregory's Powder	531	Gazette	546
Legal and Magisterial	531	Foreign and Colonial	546
Spectacle Trade	531	Exchange Column	547
Sale of Poisons by Agents	531	Trade Report	550
Bankruptcies and Liquidations	533	Monthly Price Current	552
Poisoning Cases	534	Correspondence	552
Chemical Society	535	International Pharmaceutical Congress	554
Editorial Notes	536	Major Examination	554
Illegitimate Trading and Branch Shops	536	Medical Gleanings	558
Steamy Windows	537		

**PUBLISHER'S NOTICE.**

WE hope all subscribers have by this time received THE CHEMISTS' AND DRUGGISTS' DIARY for 1882. A large proportion of the copies have been delivered by Sutton's Parcel Company. If in any case a charge for delivery has been made, and a receipt for payment has been taken, we will refund the charge, if the receipt be sent to us.

We beg to announce that we shall be able to stitch up circulars with our next number (January 14, 1882). Any house wishing to distribute circulars to TEN THOUSAND chemists and druggists in Great Britain and Colonies is requested to write to us for particulars.

The frequency of cases of poisoning by chloral preparations sold as patent medicines has attracted considerable attention of late, and, unless the Pharmaceutical Council take some steps to bring such sales under regulations, some more powerful bodies are likely to take the matter in hand.

Professor Attfield has been to Manchester on an apostolic mission preaching curriculum and the abolition of "cram." Considering that the Pharmaceutical Society cannot enforce a curriculum without the permission of the Privy Council, that the Privy Council are sure to be guided by the opinion of their delegate, Dr. Greenhow, and that he has clearly and definitely expressed his opinion that the requirement of a

curriculum is not desirable, these lectures, resolutions, and discussions on the matter have a somewhat artificial air. It would be more to the purpose to lecture to Dr. Greenhow direct, or at least to reply to his objections.

Mr. B. S. Proctor has replied to those who criticised his paper on Pharmaceutical Remuneration, and especially to Mr. Schacht, who condemned the ethics which he considered were the spirit of it. Mr. Proctor says: "Mr. Schacht implies the opinion that because it is a good thing to make two blades of grass grow where one grew before, it must be good to make two pharmacists grow where one grew before. That might be good logic if pharmacists were naturally food for cattle."

The echoes of the International Pharmaceutical Congress still continue to be heard from various parts of the Continent. M. von Waldheim, the president of the Pharmacopœia Commission, reports that progress is being made in respect to the appointment of representatives. Professor Tichborne and Mr. Draper have been appointed to represent Ireland. Spain, Portugal, Italy, and Norway have not yet appointed members of the Commission. Meanwhile, the Paris Pharmaceutical Society have resolved to publish their project of an International Pharmacopœia on their own account and they will probably give their preference to that work. The Commission would do well to induce harmony before it begins any other work, for we do not see how the existence of two or three different international pharmacopœias is going to benefit anybody but the printers.

Mr. J. Borland, of Kilmarnock, has been selected as a second representative of Scotland on the Pharmaceutical Council, in place of Mr. Frazer, who has resigned. Dr. W. Inglis Clark has been chosen to fill Mr. Borland's place on the Scotch Board of Examiners.

The Chemists and Druggists' Trade Association has obtained in the Court of Queen's Bench a reversal of the decision which the Oxford magistrates gave against them in the action which they brought against a shopkeeper who sold packets of poison bearing the label of a chemist in another part of the city.

According to a return recently published the sum of 940L customs duty was paid during the year ending March 31, 1881, on chloral hydrate imported into this country, being at the rate of 1s. 3d. per lb. on 14,561 lbs. The duty on transparent soap, at 3d. per lb. on 53,307 lbs., yielded 666L.; but chloroform, collodion, and ether produced less than 40L.

In this number we conclude the series of articles on "Artificial Digestive Agents," which Dr. Milner Fothergill has contributed to these pages. These articles and the accompanying diagram have been copied into several of the most widely-circulated American journals.

At a meeting of wholesale druggists, held at Cincinnati last month, it was resolved that it was desirable that a 10 per cent. *ad valorem* duty should be imposed on foreign quinine. Apparently in anticipation that Congress will take some such course, large orders for quinine have lately been placed on European markets from the United States.

While we are painfully aware of many shortcomings, we trust, in concluding our work for 1881, we may come before the trade which has favoured us with such generous support, and claim that we have to some extent "supplied a want" by the monthly provision of information which our journals have furnished. Our aim has been and will be to be useful above all to the retail chemist and druggist, and we hope that our arrangements for 1882 will enable us to fulfil that aim more efficiently than we have yet done.

Pharmacalia.

PROFESSOR ATTFIELD ON A CURRICULUM.

MANCHESTER has united to do honour to Professor Attfield. We quite sympathise with the North in their appreciation of our Professor of Practical Pharmacy. The subject chosen was "The Relation to each other of Education and Examination, with regard to Pharmacy," and the lecture was delivered before the members of the Chemists and Druggists' Association and School of Pharmacy at the Memorial Hall, Albert Square.

The meeting was unanimous in its commendation both of the matter and the manner of the address, Messrs. Benger, Benjamin Robinson, J. T. Slugg, G. S. Woolley, Siebold, and W. Wilkinson (chairman) being amongst the speakers. The idea on the part of the executive of eliciting such a communication was responded to in a most gratifying way, as the gathering was the largest that had met together for pharmaceutical discussion during the past thirty years.

Most of us are familiar with the view Professor Attfield takes with regard to the pharmaco-educational question. He finds that a compulsory examination having been established, there is a tendency in a large class of students not to study for the sake of knowledge to be gained, but for the sake of an examination to be passed; that this is an undesirable condition of affairs, and that there is a hope that the evil may in great measure be met by the interposition of an enforced curriculum. That means, that no student shall present himself for his official examination unless he can produce documents to show that he has finished a regular course of study at some recognised school. That which renders this more desirable is the fact that chemistry, botany, and allied sciences very often, and pure pharmacy always, are taken up at a late period in life, when such studies as concern a liberal education have been finished. Time presses, and a compulsory ordeal is imminent, hence the difficulty of the situation.

The Council of the Pharmaceutical Society, the Board of Examiners, and many private teachers agree with the wisdom of creating a definite preliminary curriculum. Most will be prepared to endorse the opinions uttered by Dr. Attfield, and to admire his lucid description of the circumstances which have led the way to the proposal of a curriculum. The project is thoroughly in accord with the determination so generally evinced to raise the character of British Pharmacy, and to render its pursuit an honourable object of ambition. Yet it would have pleased many who admire the lecturer had he omitted one train of thought which runs, more or less perceptibly, through this and similar communications, where we think the Professor unintentionally injures the school in which he is so able an instructor, is the constant allusion, at least by inference, to the non-success of the particular establishment at Bloomsbury Square, and at any rate suggests the conclusion that the system pursued there, being directed to the cultivation of the mind, is not adapted to prepare a candidate for the passing of those examinations which the law enjoins. Then, says the student naturally, if this be so, I cannot afford so expensive and theoretical a luxury. Much as I should like to walk and talk with distinguished men like Professor Attfield and others, and beautiful as it would be solely to improve my mind, somebody—not myself, certainly—has placed an official examination between myself and the licence to practise pharmacy, and therefore I must go elsewhere. This is precisely what many a student does, and he finds, to his surprise possibly, that he may accom-

plish two things: he may, in several admirably-conducted schools, faithfully learn the required subjects, and be so well directed during his educational career that "minor" and "major" considerations cease to remain objects of anxiety. We submit, in no spirit of opposition, but in the spirit of one whose whole hereditary sympathies are on the side of the parent school, that it is not good to draw attention persistently to its empty benches, and to suggest as a reason that its plan of education is unadapted to practical results, or of too refined a character to be appreciated by a student.

We believe that the school at Bloomsbury has infinite possibilities. There is connected with it the finest museum of *materia medica* in England. The society's laboratory, which is available for the school, is spacious, convenient, and unique in its arrangements, and no one questions for a moment the ability of its professors. But, if it is to enter into successful competition with other educational establishments, it must become, like them, a school, and not a seminary of polite learning, where the student may in an aesthetic way do much what he chooses. There, rival establishments have an advantage, which for some years they have maintained.

Whatever plan may hereafter be adopted, it is still certain that true progress in pharmacy will depend on individual character and effort. Devise as we will, excellence, thoroughness, and high attainment are personal qualities. Systems may aid, they will never make men pharmacists. Not the less are we grateful to those who, like Professor Attfield, multiply our means of assistance.

The Pharmaceutical Council.

DECEMBER 7, 1881.

M. R. T. GREENISH, President, Mr. G. F. Schacht, Vice-President. Mr. Savage was the only absentee, Mr. Frazer having resigned.

The minutes of the last meeting were read and confirmed.

RESIGNATION OF MR. FRAZER.

The PRESIDENT said that last month they had received Mr. Frazer's resignation, but they had not accepted it till they had asked him if he really could not continue his attendance. He had written that this would be utterly impossible. Every member would regret the loss of Mr. Frazer, who had always been outspoken on all important matters, and always had the courage of his convictions. According to the bye-laws, he (the President) had much pleasure in nominating Mr. Borland to fill the vacant place on the Council. This gentleman had practically been chosen in Scotland. He had been an able member of the Examining Board, and would, doubtless, be equally able as member of the Council. The only cause for regret was that the Examining Board would lose his help.

The VICE-PRESIDENT seconded the nomination. He had made the acquaintance of Mr. Borland some years ago, and had seen him at his work as Examiner. He had noticed his large knowledge and the special equipment for his duties in his calmness of demeanour and thorough control of his large powers. He was very much inclined to think that he would prove to be one of their ablest coadjutors.

Mr. YOUNG supported the nomination. Mr. Borland was a member of a wholesale and retail firm at Kilmarnock which had been in existence nearly a century. He had been some years on the Scotch Board of Examiners, and no one more efficient could be found.

The resolution was carried unanimously.

Mr. HAMPSON regretted that Wales was not represented on the Council.

Mr. ATKINS thought that they ought not to allow so esteemed a member as Mr. Frazer to leave them without some formal expression of regret. This expression would

not be a mere compliment. Although they had often differed from Mr. Frazer, or rather he had differed from them, his courage and frankness had always won their esteem. Many would recall the graceful hospitality he had afforded them when they visited the North, and his presence at the Council-table and his private friendship would be much missed. He therefore moved

That this Council desires to record its sincere regret at the loss of the valued services of Mr. Frazer, and trusts that he will be able still to devote some portion of his valuable time to the general interests of the Society and pharmacy.

Mr. BOTTLE had much pleasure in seconding the resolution. He had always admired Mr. Frazer's bold expression of his views, though he had as often differed from him as been convinced. When he was present they had the advantage of hearing two sides of a question. He had been a genial friend at the Council-table and at home.

The motion was carried unanimously.

The Council went into committee to consider the appointment of Examiners, and on resuming, the following were appointed for the ensuing year:—

For England.—Messrs. A. Allchin, J. B. Parnes, F. B. Benger, H. B. Brady, O. Corder, C. Ekin, S. Gale, T. E. Greenish, J. S. Linford, W. Martindale, S. Plowman, W. Southall, J. C. Thresh, G. S. Taylor.

For Scotland.—W. Ainslie, H. B. Baildon, W. I. Clark, A. Gibson, W. Gilmour, A. Kinninmont, J. Nesbit, J. B. Stephenson.

DATES OF EXAMINATIONS IN 1882.

It was also resolved—

That the Board of Examiners for England and Wales shall meet, in 1882, in February, April, June, July, October, and December.

That the Board of Examiners for Scotland shall meet, in 1882, in February, April, July, and October.

COMPULSORY CURRICULUM.

Mr. WOOLLEY laid before the Council a resolution which had been passed almost unanimously on December 1 at an important meeting of the Manchester Chemists' Association, at which delegates from many neighbouring towns had been present, as follows:—

That in the opinion of this meeting it is desirable that a more intimate relationship between pharmaceutical education and pharmaceutical examination should be established, and that candidates for examination should be required to show that they have attended courses of lectures, in some recognised school, on chemistry, botany, and *materia medica*, and also a course of instruction in practical chemistry.

The resolution was meant to strengthen the hands of the Council, and to show what was the feeling in the district.

ASSOCIATES, &c.

Certain associates and apprentices were elected, and a member restored. The Registrar reported that John Wilmot Griffiths, 1 Rathbone Street, Barking Road, Essex, having been in business before the passing of the Pharmacy Act, 1868, and complied with the regulations, had been placed on the register.

THE FINANCIAL REPORT

Was read and adopted. It contained an item of about 130*l.* for printing and binding the official report of the International Pharmaceutical Congress. A thousand copies had been printed, and 400 had been dispatched to persons who had been invited to attend the Congress. The remainder would be sent to such other persons as the Committee might determine.

THE BENEVOLENT FUND.

Four grants of 10*l.* and one of 5*l.* were made.

LIBRARY, MUSEUM, LABORATORY, AND HOUSE.

The report was received and adopted. It contained the usual detail of the attendance and additions to the library and museums, letter of thanks for specimens, &c.

INTERNATIONAL PHARMACEUTICAL CONGRESS COMMITTEE.

The report of this Committee was received and adopted. It contained letters of thanks for the reception of their delegates from the Apothekare Societetens Direktion, Stock-

holm, and from the Pharmaceutische Gesellschaft, Prag; also a letter from Professor A. von Waldheim, detailing certain steps which had been taken by the International Pharmacopeia Commission; and a letter from Dr. Paul, stating that in accordance with the request of the Council a report of the International Congress had been prepared by himself and Mr. Passmore. A bound copy was laid on the table.

REPORTERS.

On the Secretary being requested to read the report of the Law and Parliamentary Committee, Mr. CARTEIGHE moved and Mr. HAMPSON seconded that the Press reporter do retire.

Mr. ATKINS asked if it was intended to make a distinction between the reporters. If so he should object. He moved as an amendment—

That the reporters be allowed to remain, but not to report.

Mr. HAMPSON thought that on consideration Mr. Atkins would see the propriety of the step suggested, inasmuch as their own reporter was the reporter of the Council and Society. The Press reporter was in a different category.

Mr. CARTEIGHE said that if Mr. Atkins could make it convenient to attend some of the meetings of the Law and Parliamentary Committee he would find that there were abundant reasons for this course. The report contained communications from persons in high positions which should not be made public.

Mr. ANDREWS said the Press reporter retired because the Council wished that certain matters should not be made public. Their own reporter remained that the Council might have a record of what took place.

Mr. YOUNG spoke to the same effect.

Mr. SYMES would not raise any objection if the matter were not allowed to become a precedent, but the question should be thoroughly discussed in committee. It should be understood that a special resolution must be passed whenever the Press reporter is required to withdraw. He could see that the Society's reporter was the reporter of the Council; in fact that there was no reporter for the *Pharmaceutical Journal* present.

Mr. ATKINS said this was a new argument imported into the discussion that day for the very first time. It might have some weight. But until the matter had been thoroughly discussed by a committee he should object to any deviation from the usual custom. Up to the present all invidious distinctions had been studiously avoided.

The VICE-PRESIDENT wished to remind Mr. Atkins that no discussion of the matters in committee could possibly alter the facts; and the facts were that one reporter was the reporter of the Council, not of the *Journal*.

Mr. SYMES again remarked that the present resolution should not be made a precedent, but that the Press reporter should be required to withdraw only on special resolution.

The PRESIDENT remarked that the Press reporter was not there because they allowed him to be there, but in consequence of a resolution, passed after due notice, to the effect that Press reporters should be placed on the same footing as the Society's reporter; both were, therefore, subject to the same regulations as to going into committee.

Mr. YOUNG asked if that was the resolution at present in force.

Mr. SYMES said he had spoken before under a misunderstanding. He had not remembered that any such regulation was in force. Before the matter could be properly dealt with there must be due notice and full discussion. He hoped the resolution would be withdrawn and the matter brought before a committee.

Mr. RICHARDSON did not see how the Council could stultify itself by accepting Mr. Carteighe's motion in face of the resolution now standing on the minutes, however desirable it might be.

Mr. CARTEIGHE was sure that the feeling of the majority of the Council was with him, and if the President ruled that his motion was in order he would stick to it. If not he would amend it, and move that the reporters withdraw during the consideration of the report of the Law and Parliamentary Committee.

The VICE-PRESIDENT: It will be very inconvenient.

The resolution was carried unanimously, and the reporters withdrew.

Pharmaceutical Society of Ireland.

THE monthly meeting of the Council was held on December 7, at Dublin, at 3 p.m., Dr. Tichborne, President, in the chair. Other members present: the Vice-President, Dr. Aquilla Smith, Mr. Brunker, Mr. Holmes, Dr. Collins, Mr. Draper, Mr. Hayes, Mr. Pring, and Dr. Montgomery.

The REGISTRAR read the minutes of the last meeting. Before these were signed,

Mr. HOLMES asked, Did the appointment of a committee to attend the examinations nullify rule 2 at page 46 of the rules, viz.:—"The President or Vice-President of the Society, or, in their absence, a member of the Council, when present at any meeting of the Board of Examiners, shall preside thereat. All examinations shall be open to the members of the Society?"

The PRESIDENT said that matter had already been settled by a resolution, and they could not reopen the discussion.

Mr. HOLMES: Does the resolution which has been passed preclude members of the Society from attending at examinations.

The PRESIDENT: Certainly not. The object of passing the resolution was to carry out the rule, which had been a dead letter.

The REGISTRAR read a letter from Mr. W. J. Smyth, in reply to an inquiry which had been addressed to him by direction of the Council. Mr. Smyth is apprenticed to Messrs. Dobbin & Son, of Belfast, of which firm the father is unqualified, but the son is a pharmaceutical chemist, and he had asked whether a certificate of two years' service, as required by the regulations, signed by Mr. Dobbin, jun., would be accepted. The Council had asked whether Mr. Smyth was at the beginning or the end of his apprenticeship, and it appeared from his reply that he was 19 and would therefore be ineligible for two years.

The PRESIDENT suggested that for the sake of Messrs. Dobbin, Mr. Smyth wanted to get a legal opinion. He thought the reply to his letter should be simply that the Council could not give an opinion upon a certificate that did not exist.

The subject was discussed by several members, and finally, on the motion of Mr. BRUNKER, seconded by Dr. COLLINS, the following resolution was passed:—

That this Council declines to express any opinion on the merits of a certificate to be presented at a future date, and refers Mr. Smyth to the bye-laws of the Society.

A letter was received from Mr. Richard Bremridge, Secretary-General to the International Pharmaceutical Congress of 1881, acknowledging the resolution of the Council, thanking the Committee for the courteous reception that had been accorded to the representatives of the Pharmaceutical Society of Ireland.

The REGISTRAR read the following letter:—

Medical Hall, Arklow.

SIR,—I wish to bring under the notice of your Society the fact that general dealers, grocers, &c., are selling pills by such makers as Richardson, which are not protected by the Government stamp. Now as those dealers are selling castor oil, Epsom salts, and nearly every drug in common use, underselling chemist and apothecary, you may judge that it is next to an impossibility for the latter to earn a decent livelihood by the exercise of their profession. Poisons are also sold with little or no profit to the seller in order to attract customers for other goods. If things are allowed to go on in this way it is more than probable that chemists and apothecaries will become extinct at no very distant period. The French law, I believe, does not allow anything to be sold except by a qualified person.

I am, sir, your obedient servant,

November 7.

RICHARD HOWARD, L.A.H.

The PRESIDENT: I quite agree with that letter except from a different standpoint.

The VICE-PRESIDENT: You cannot prevent anyone from selling Richardson's or Cockle's pills.

Mr. HOLMES: The writer should apply to the Apothecaries' Hall for redress.

The PRESIDENT: It is one of the points that we have at the present moment before the Legislature, and it would be proper to send this gentleman a courteous reply.

Mr. DRAPER: His letter deals with a very real grievance.

The PRESIDENT: We would be justified in expressing the opinion that we think the laws of the country are open to improvement.

On the motion of Mr. Draper the following resolution was passed:—

That the Council is very sensible of the grievance which affects Mr. Howard in common with other pharmacists, but regrets that in the present state of pharmaceutical legislation it is unable either to apply or to suggest a remedy for the evil.

The REGISTRAR was also directed to inform Mr. Howard that representations to the Government on the subject had been already made by the Council.

A letter was received from Dr. Kaye, Q.C., stating that the Lord Lieutenant and Privy Council of Ireland had on November 18 approved of the resolutions passed by the Council on June 1 last, providing that certificates from candidates for the Pharmaceutical examination be sent in 14 days before examination and be examined by a committee, who shall satisfy themselves of their *bona-fide* character.

A letter, dated November 24, from Mr. George L. McCormack, L.P.S.I., and addressed to the President and Council, asked was it fair or legal for a candidate to enter for the Final examination if he had a certificate for two years' compounding, but in reality had only compounded for one or two hours daily. Cases had come to the writer's knowledge of gentlemen who, being about to enter for the licence, went to a pharmaceutical chemist or apothecary for one or two hours daily for two years. Mr. McCormack submitted that what was meant by two years' compounding was that the person should have attended at least six hours a day, and should have been bound as an apprentice by indenture.

The PRESIDENT: I think a reply should be sent to Mr. McCormack, stating that a resolution has been already passed by the Council appointing a committee, who will meet the objections to which he refers.

The VICE-PRESIDENT: And consider them.

The PRESIDENT: The object of appointing the Committee is to prevent it. The Committee has been appointed to examine the certificates.

Mr. HOLMES: Is the Committee appointed to decide questions without authority from the Council?

The PRESIDENT: That is another question, upon which I shall not pass an opinion.

Dr. COLLINS: If a young man sends us a certificate, and the Committee think it does not meet the requirements of the Council, they must say so, and he cannot be examined.

The PRESIDENT: The shortest way would be to send Mr. McCormack a copy of the resolution.

Mr. DRAPER: Cases such as he refers to have been laid before the Council.

It was ordered that a copy of the resolutions of June 1 should be forwarded to Mr. McCormack, and that he should be informed that in the opinion of the Council they met the cases to which he referred.

Mr. HAYES said a letter dated Medical Hall, Carrickmacross, September 22, from Mr. Joseph W. Murray, had been received by the Registrar, in which the writer asked to be informed "if a certificate from a chemist and druggist who was a registered licentiate of the Pharmaceutical Society of Great Britain, of having been engaged at compounding and dispensing for two or more years, was a sufficient certificate for the Pharmaceutical examination of the Pharmaceutical Society of Ireland." He (Mr. Hayes) held that the object of the bye-law which required that the candidate "must have been practically engaged in compounding and dispensing for at least two years in the establishment of a pharmaceutical chemist or apothecary keeping open shop" was merely to secure that he should have been practically engaged in a proper place where he could learn the business of a pharmaceutical chemist. A note at the foot of the pages of the Calendar containing the bye-law was as follows:—

This may be a pharmaceutical chemist either of Great Britain or Ireland.

He now moved the resolution of which he had given notice in a slightly altered form, namely, that the foot-note should read thus:—

This may be a registered licentiate of the Pharmaceutical Society of Great Britain as well as a pharmaceutical chemist of Ireland.

Mr. HOLMES said he approved of Mr. Hayes' proposal, but he thought it would require a new bye-law.

The PRESIDENT: If this resolution passes it must be embodied in the form of a bye-law, which will have to be submitted to the Privy Council. The present proposal would be a rider to the bye-law which has already passed the Privy Council. We have accepted all the Preliminary examinations of all the recognised medical and licensing bodies, including the Pharmaceutical Society of England.

Mr. BRUNKER said there would have been good grounds for adopting this proposal at the time of the last alteration; but they would place themselves in a wrong position if they continually chopped and changed about in order to meet every small case that arose. It might be that a young man would derive as good a knowledge of his profession in the establishment of a chemist and druggist as in that of a pharmaceutical chemist. But the Council had decided on accepting the certificate of a pharmaceutical chemist as representing a person in a higher position in the profession in England; and he thought that without very good reason it would be unadvisable to depart from that.

Mr. HOLMES: A gentleman who has the qualification of a chemist and druggist in England can do everything that a pharmaceutical chemist is entitled to do. His examination qualifies him to make up prescriptions.

Mr. PRING said he agreed with Mr. Brunker.

Dr. COLLINS: Does the Pharmaceutical Society of England admit the Preliminary examination of our Society.

The PRESIDENT: They have not done so yet. We have set them an example which, I think, they should follow. They have not done so, and, therefore, I would not make any further change now.

Mr. DRAPER: The Pharmaceutical Society of England has nominally a higher standard of examination than we have; and to make the proposed change would look like retrogression in the eyes of the English Society.

Mr. HAYES: I do not think we have a lower standard. Do not we agree that a young man can get as good instruction from a pharmaceutical chemist in England as elsewhere?

Mr. PRING: In some places you can, but not in others.

Dr. MONTGOMERY: I do not think we should make the alteration. I think we should hold up our name.

Mr. HAYES: I want to provide that a registered licentiate of the Pharmaceutical Society of Great Britain, after having been so engaged for two years, may come in for our examination in pharmaceutical chemistry.

Mr. DRAPER: Why not let him become an apprentice to a chemist and druggist in this country?

Dr. MONTGOMERY: We ought to be inclined to close the door rather than open it more to men coming from England, where the standard of education, I regret to say, particularly with that class, is not as high a standard as we insist on here.

Mr. HOLMES: That is a mistake altogether. The English standard in pharmaceutical matters is, as a matter of fact, far higher than here.

The PRESIDENT: I do not agree with you there, Mr. Holmes.

Mr. HOLMES seconded the motion, and

Mr. HAYES said Dr. Montgomery was mistaken in supposing that he wanted to prevent men from coming in for their examination. As a Council, they would be delighted to find young men doing so.

Dr. MONTGOMERY: You misunderstand me.

Mr. HAYES: We want to see that the candidate has got a practical as well as a theoretical education. I think the candidates in whose favour my motion is made will get that in England. Only a few may present themselves, and we should not turn them away.

Dr. MONTGOMERY: Our object is not to close the doors to candidates, but to keep the standard as high as we can. I know a class of men who would come in in the way proposed, but whom it would not be desirable to admit.

Mr. HOLMES: Why not, if they can pass the examination?

The motion of Mr. Hayes was then put in the form following:—

That the note be altered thus:—"This may be a pharmaceutical chemist of Ireland, or a pharmaceutical chemist or registered licentiate of the Pharmaceutical Society of Great Britain."

The motion was negatived by 5 to 2.

Mr. Bell, of Enniskillen, and Mr. Johnston, Ballina, were elected members.

The Council then adjourned.

Metropolitan Reports.

HOAX ON MESSRS. BUTLER, MCULLOCH & CO.—At Bow Street, on November 23, Mr. Hart, of the firm of Messrs. Butler, Mc Culloch & Co., herbalists, of Covent Garden, applied to Mr. Vaughan with reference to an advertisement, which had been published without the sanction of the firm, for several women to pack herbs, &c., in their warehouse. It was stated that no previous knowledge was necessary, that the wages would be 15s. a week, and that application was to be made on Tuesday to the above firm. Upwards of 500 women having applied, great inconvenience and annoyance were caused, two constables being necessary to move the applicants away. The present application was made with the view of ascertaining what steps could be taken to punish the perpetrators of this hoax. Mr. Vaughan said it was a very mischievous thing. There had, however, been no actual fraud, and the perpetrator of so cruel a hoax was not answerable to the criminal law. If his name could be ascertained he was liable to the women for damages.

CHEMISTS' ASSISTANTS' ASSOCIATION, 32A GEORGE STREET, HANOVER SQUARE.—On Wednesday next, December 21, the adjourned discussion on Pharmaceutical Education will be resumed at 9 P.M. The resolutions under discussion are subjoined:—

Resolution, moved by Mr. C. E. Stuart, seconded by Mr. Owen Wallis:—

1. That it is desirable a change should be made in the present system of pharmaceutical examination.
2. That such change should include the making the Preliminary an entrance examination.
3. That such change should also include the requirement before entrance to the Minor of evidence of efficient attendance at a recognised course of training in chemistry, botany, materia medica, and pharmacy, and the lengthening of the time of the examination.

Amendment, moved by Mr. C. F. Wyatt, seconded by Mr. C. R. Killick:—

That the words from "the requirement before entrance" to "materia medica and pharmacy" be omitted.

PATENT MEDICINE STAMPS.—At the Central Criminal Court on November 22, Sarah Anne Lewis, 41, surrendered to her bail, and was indicted, together with Walter Stafford, 29, described as an agent, for feloniously, and without lawful excuse, having in their possession parts of stamps which had been fraudulently mutilated. Mr. Poland and Mr. Besley conducted the prosecution on behalf of the Inland Revenue authorities; Mr. Montagu Williams and Mr. Charles Mathews defended Lewis; and Mr. Forrest Fulton and Mr. Horace Avory appeared for Stafford. The case was somewhat peculiar. It was alleged on the part of the Inland Revenue authorities, the prosecutors, that they had been defrauded by the defendants of a considerable sum of money by means of an ingenious system of fraud in connection with the mutilation of the Government stamps which are necessary to be affixed to patent medicines. The defendants had occupied rooms respectively in Battersea and Brompton, and they seemed to have carried on the business of selling patent medicines. They dealt principally in two patent medicines, which were described as being essence and syrup of phosphorus. These they sold in bottles priced 2s. 6d. and 4s. The regulations of the Inland Revenue Department provide that a stamp of 3d. must be affixed to each 2s. 6d. bottle, and a 6d. stamp or two 3d. stamps to the 4s., and the charge against the defendants was that they had cut the 3d. stamps in half, and by a peculiar and ingenious manner of placing the wrapper on the bottle the half stamp was made to appear as an entire one, one stamp being made to do duty for two; and it was contended a similar contrivance had been resorted to to defraud the Government in the cases of the 6d. stamps also. After the alleged fraud had been discovered, the police, who had been communicated with, searched the apartments occupied by the defendants, and found other stamps divided into halves. But, on the other hand, the defendants totally denied the charge brought against them, and they urged in defence that the fraud had been committed by a man who had formerly been employed by the female defendant as a messenger, and that they were

entirely ignorant and innocent of the matter. The Recorder summed up the case, and, in the result, the jury, after considering the case for some time, acquitted the accused, who were accordingly discharged.

Provincial Reports.

BRIDLINGTON.

ACTION BY THE PHARMACEUTICAL SOCIETY.—An action of considerable interest was tried at the Bridlington County Court, on November 21, before Mr. F. A. Bedwell, Judge, in which the Pharmaceutical Society claimed the penalty of 5*l.* from Mr. G. H. Bradford, Promenade, Bridlington Quay (trading as "Bradford & Co."), on the ground that he was not registered under the Pharmacy Act. The defence was that defendant had paid one penalty to the Society, and in order to put himself right with the Society, on July 15 last transferred his interest in the business to his partner, Mr. Laverack, of Malton, who was registered. The business was started under the name of "Bradford & Co." by Mr. Bradford and Mr. Laverack, and the reason the name was not altered after the transfer took place was because a certain amount of success had attended the firm under the name of "Bradford & Co." Mr. Bradford said he received a promissory note for 300*l.* from Mr. Laverack for his share of the business. His Honour, in giving his verdict, remarked that there was some suspicion about the case, and it was a proper one for the Pharmaceutical Society, in the interest of the public, to have taken up; but, from the evidence, it now appeared to him that the deed of the transfer was a *bonâ-fide* one, and that the business was Mr. Laverack's, and the verdict would be for the defendant with costs.

CARDIFF.

CHARGE FOR A MEDICINE-CHEST.—In the Admiralty Division of the Cardiff County Court, on November 26, Messrs. Trebarne & Sons, London, wholesale chemists, brought an action to recover a sum of money for fitting up a medicine-chest for the Italian vessel *Cacin*. Mr. Vachell appeared for the plaintiffs, and Mr. Stephens represented the owners of the *Cacin*. Plaintiffs' case was that the captain of the *Cacin* ordered the chest to be fitted with the usual drugs according to the Italian law, and that this was done. The defendants said that the vessel had formerly been an English one, that she was purchased by her present owners and transferred to the Italian flag, that in the inventory was the medicine-chest, and that the captain had never ordered it to be fitted. The case was adjourned for the defendants to call further evidence.

DOVER.

DOVER CHEMISTS' ASSOCIATION.—The annual meeting was held November 16, 1881, when the President, Mr. Peake, and the secretary, Mr. Wilford, were re-elected. After transacting other business the annual supper took place, after which the toasts of "The Dover Chemists' Association" and "The Pharmaceutical Society" were proposed and suitably responded to.

EDINBURGH.

SCHOOL OF MEDICINE, MARSHALL STREET.—Mr. L. H. Wight, M.A., Edin., has commenced classes for the Pharmaceutical preliminary examination at this school.

FIRE AT MESSRS. T. & H. SMITH'S.—On November 17 a fire occurred at the Blandfield Chemical Works, near Beaver Bank, the property of Messrs. T. & H. Smith, Duke Street, Edinburgh. The works consist of two buildings—a large brick tenement, containing various chemical products, and a two-storey stone building, used as a vat store. As the works were being kept going night and day, the night hands began work at six o'clock. About seven o'clock the workmen in the vat store raised an alarm of fire, and though the hose on the premises was at once brought into operation, the fire caught firm hold of the dry willow bark in the store, and rendered it impossible to save the building or its contents. The store was about 40 feet in length by

20 feet broad, and in a few minutes the roof caught fire and fell in. By eight o'clock the store in which the fire originated was completely gutted, but the fire brigade, notwithstanding the small supply of water, succeeded in saving the adjoining building. The store contained a large quantity of willow bark and three vats for steeping the bark. There were also two copper stills in the building. The damage, which is supposed to amount to between 500*l.* and 600*l.*, is covered by insurance. It is not known how the fire originated.

GLASGOW.

THE GLASGOW CHEMISTS' AND DRUGGISTS' ASSOCIATION.—The junior section held their opening meeting on November 16, Mr. Walter Paris presiding. The election of officers for the ensuing session resulted as follows:—President, Mr. G. S. Illingworth; vice-president, Mr. David Lees (re-elected); secretary, Mr. John McTurk; librarian, Mr. Alexander Boyd. Members of committee: Messrs. D. G. Duncan, James Laing, William Law, and Charles Simpson.

MANCHESTER.

PRESENTATION.—On October 8 Messrs. Bratby & Hinchliffe, mineral water and mineral-water machinery makers, gave a picnic to their employés and their wives, making a party of about 70, at Romilly, Cheshire. After a hearty dinner, and in the course of some toasts, Mr. Bratby presented cheques for 10*l.*, 5*l.*, and 50*s.*, to the travellers who had sold the largest quantities of mineral waters respectively. Soon after, and quite unexpectedly to the firm, a presentation of a marble timepiece and an address was made on behalf of the employés to the partners.

PHARMACOPEIA REVISION.

American Pharmaceutical Association Committee on the Revision of the United States Pharmacopæia. Report on the Revision of the United States Pharmacopæia preliminary to the Convention of 1880. Prepared and compiled by Charles Rice, Chairman of the Committee, New York. 1880. The report not for sale.

(THIRD NOTICE.)

PASSING now to iron preparations we find fewer changes than might have been expected in a class of substances so important and useful. We note only three new preparations, and one of these might conveniently have been dispensed with.

SACCHARATED IODIDE OF IRON,

Ferri Iodidum Saccharatum, is a sensible preparation, and one calculated to replace the present unsatisfactory because unstable iodide of iron. The well-known action of saccharine substances in preserving ferrous salts is here brought into use, and although we have not tried the experiment in the present instance, our experience in other directions fully convinces us that here also it will prove useful. The formula is as follows, and the product contains 20 per cent. ferrous iodide and is stated to be soluble in 7 parts of water.

Take of—		Parts
Iodine	16	
Iron wire (fine and cut small)	5	
Distilled water	20	
Sugar of milk in fine powder..	80	

Proceed as if for syrup or pill; then filter the clear solution through a wetted filter into a porcelain capsule containing the sugar of milk. Wash the filter with a small quantity of water, and then evaporate the contents of the capsule on a water bath under constant stirring until a dry mass remains. Lastly, reduce to powder and preserve in small well-closed vials protected from light.

WHITE PHOSPHATE OF IRON,

Ferri Phosphas Alba, has ostensibly been introduced to replace the present ferroso-ferric phosphate in the making of Easton's and Parrish's syrup. We will notice this innovation under these preparations; meantime it may be as well to point out that if it finds a place at all in the Pharmacopæia,

which we hope it will not, it will necessitate a change in the nomenclature of the present phosphate. As it would be chemically incorrect to call the one ferrous, and probably inexpedient to call the other ferric, it is proposed to distinguish the two preparations by calling the one as above and the other corulea (blue), or subcorulea (bluish or pale blue). The ferric phosphate is made by decomposing solution of chloride of iron 16 parts, with phosphate of sodium 19 parts, collecting the precipitate and drying by exposure to warm air. As the United States Pharmacopœia solution of chloride of iron is not quite so strong as the British Pharmacopœia, the proportion of phosphate of soda would require to be slightly increased.

SOLUTION OF DIALYSED IRON,

Liquor Ferri Dialysati, the remaining iron preparation, has the following characters given by the German Pharmacopœia Report: "A clear dark red-brown odourless liquid of a faintly astringent taste and a sp. gr. of 1·046. It does not reddens blue litmus paper. Diluted with water until it is transparent, the solution must not be clouded in less than two minutes by nitrate of silver. Evaporated to dryness it should leave 5 per cent. of residue." It is proposed to add *Hydrobromate of Morphia* to the

MORPHIA SALTS,

Making four in all officinal, viz.: Acetate, Hydrobromate, Hydrochlorate, and Sulphate. We are surprised that no one has advocated the admission of the Tartrate as an officinal salt. We have tried most of the Salts of Morphia for hypodermic solutions, and none equal the Tartrate for solubility or keeping properties. It is freely soluble in cold water, forms a clear solution, and will keep uninjured for an indefinite period. We have frequently observed, and have more than once called the attention of makers to the fact, that the solubility of most of the Salts of Morphia, particularly of the Bimeconate, Acetate, &c., is in proportion to their age. In other words, the longer they are kept the less soluble they become, and in these circumstances to have a salt such as the tartrate that could always be depended upon is no small recommendation. Of

OLEATES (OLEATA).

Five are now proposed to be made officinal, and to these a sixth might have been added, as it is frequently prescribed, viz., Oleate of Bismuth. *Oleate of Aconitum (Oleatum Aconitii)* is made as follows:—

Take of—	Parts
Aconitum	2
Purified oleic acid	98

Rub the Aconitum carefully with a small quantity of the Oleic Acid in a warm mortar to a smooth paste, then add the remainder of the Oleic Acid; set the mortar in a moderately warm place and triturate occasionally until the Aconitum is dissolved. *Oleatum Morphiae* (5 per cent.), *Oleatum Quiniae* (25 per cent.), *Oleatum Veratricæ* (2 per cent.), are all made in the same way. For *Oleatum Hydrargyri* the following directions are given:—

Take of—	Parts
Yellow oxide of mercury	10
Purified oleic acid	90

Upon the Oleic Acid contained in a mortar gradually sprinkle the oxide of mercury, previously deprived of every trace of moisture by drying, and incorporate it thoroughly with the oleic acid. Then triturate the mixture frequently until the oxide of mercury is dissolved. As the yellow oxide of mercury is not officinal in the British Pharmacopœia, the following improved process for making it may be given:—

Take of—	Parts
Corrosive chloride of mercury	4
Solution of potass	25
Distilled water, a sufficient quantity.	

Dissolve the sublimate in 75 parts of distilled water and pour it under constant stirring into the solution of potass, previously mixed with 50 parts water. After the precipitate has subsided pour off the supernatant liquid and wash with distilled water; then dry the precipitate on bibulous paper in a dark place. The amount of solution of potass is here increased, and pouring the solution of mercury into it presents the formation of oxychloride.

The only oils requiring notice, not officinal in our own Pharmacopœia, are *Oleum Eucalypti*, *Ol. Santali*, and *Ol. Gossypii Seminis*. The

COTTONSEED OIL

Has been introduced to replace Olive Oil in certain preparations, such as Camphor Liniment, Liniment of Ammonia, &c., for which and other purposes still it is said to be far superior to olive oil. In thus using it, however, it should not be forgotten that it belongs to the class of drying oils, and therefore is not suitable for every purpose. Other introductions under this class are unimportant. Along with

PEPSIN (PEPSINUM),

Two preparations from it are also introduced, viz., *Saccharated Pepsin* (*Pepsinum Saccharatum*) and *Solution of Pepsin*, or *Liquid Pepsin* (*Liquor Pepsini*), and both might advantageously be substituted for the non-officinal, but well-known preparations of commerce here, viz., pepsin wine and pepsin powder. Wine (too often bad wine) is not a proper medium for extracting the active principle from the rennet, nor is it even a suitable substance for dissolving the prepared pepsin itself; while, on the other hand, the pepsin powder of commerce, it is well known, is generally a mixture of pepsin and starch powder in variable proportion. The saccharated pepsin is directed to be made as follows:—"Pepsin mixed while moist with sugar of milk and afterwards dried and powdered. The strength of the preparation should be so adjusted that 10 parts of it dissolved in 150 parts of water and 3 parts of hydrochloric acid will dissolve at least 120 parts of egg-albumen at a temperature of 40° C. (101° Fahr.) in five or six hours. The liquid pepsin formula is as follows:—

Take of—	Parts
Saccharated pepsin	6
Hydrochloric acid	2
Glycerine..	40

Dissolve the saccharated pepsin in water 50 parts previously mixed with the hydrochloric acid. Filter the solution into a tared bottle containing the glycerine, and wash the filter with sufficient water to make the whole product weigh 100 parts."

SALICYLATE OF PHYSOSTIGMIA,

Physostigmine Salicylas has been added as the most stable salt of this alkaloid and most readily obtained in a pure state. The German Pharmacopœia Report gives the following characters:—"Colourless, shining, needle-shaped or short columnar crystals, apparently of a rhombic form. Soluble in 130 parts of water at ordinary temperature, much more readily in hot water. A solution of one part in 50 of hot water remains clear after cooling even after standing for weeks, which may depend on the formation of a supersaturated solution. The crystallised salt keeps unaltered in the light for a long time, but the aqueous or alcoholic solution when exposed to diffused light assumes a reddish colour in a few days. A one per cent. solution acts energetically on the pupil." The same authority gives the following characters of

HYDROCHLORATE OF PILOCARPIA,

Pilocarpia Hydrochloras, also proposed to be made officinal:—"Small white crystals easily soluble in water and alcohol, scarcely soluble in ether and chloroform, of a faintly bitter taste and somewhat hygroscopic. The aqueous solution, which is neutral, may be kept for some time unaltered, and contracts the pupil. With strong sulphuric acid it yields a yellow colour, with nitric acid (of 1·400) a faintly green, and with sulphuric acid and bichromate of potassium an emerald green. In its faintly acidified solution, ammonia produces no precipitate. Solution of soda produces a cloudiness only in concentrated solution."

OF

QUININE SALTS

Two are proposed to be added to those already officinal, and both are somewhat extensively used already, viz., *Hydrobromate* and *Salicylate* (*Quinia Hydrobromas* and *Q. Salicytas*). Regarding *Sulphate of Quinia*, Professor Prescott gives a short note on the various tests, and sums up with a recommendation in favour of Kerner's test, as given in the German

Pharmacopœia, with the suggestion that the water of ammonia may be increased from 7 cc. to 8. The same authority recommends without modification either the test by Hesse, or that by De Vrij for *Sulphate of Quinidina*, which is also proposed for addition. Two new plasters are also proposed to be added, viz.,

COURT, OR GELATINE PLASTER.

(*Sericum Gelatinæ and Isinglass Plaster Sericum Ichthocolla*).

The formula for the former is as follows:—

Take of—

Gelatine	1 part
Tincture of benzoin, a sufficient quantity.	
Water	12 parts
Taffeta (silk), a sufficient quantity.	

Dissolve the gelatine in the water. Spread a piece of Taffeta (silk) on a level surface and coat it with a layer of tincture of benzoin. When this is dry reverse the taffeta and apply to the other side the gelatine solution in five or six successive layers, waiting after each application until the layer is dry.

In

ISINGLASS PLASTER

Is prepared as follows:—

Take of—

	Parts
Isinglass	10
Alcohol	40
Glycerine	1
Water, a sufficient quantity.	
Tincture of benzoin and taffeta, of each a sufficient quantity.	

Dissolve the isinglass in sufficient hot water to make the solution weigh 120 parts. Spread one half of this upon the taffeta stretched on a level surface, in successive layers, waiting after each application until the layer is dry. Mix the second half of the isinglass solution with the alcohol and glycerine and apply it in the same manner. Then reverse the taffeta and coat it on the back with a layer of Tincture of Benzoin. Finally dry it. Substituting grammes (15·5 grains) for part, the above quantities are sufficient to cover a piece of taffeta 42 centimetres long (16½ inches) by 35 (13½ inches) wide.

In

SODIUM SALTS

There are six new additions, viz., *Sodii Benzoas*, *S. Bromidum*, *S. Chloras*, *S. Iodidum*, *S. Salicylas*, *S. Sulphocarbolas*. Of *Bromide of Sodium* the following characters and tests are given:—"A white crystalline powder, soluble in 1½ part of cold water, also in alcohol. It is unalterable in the air, and imparts an intense yellow colour to an alcohol flame. A solution of 1 gramme in 20 grammes water must not be altered inside of two minutes by five drops of a volumetric solution of barium nitrate. Neither sulphuretted hydrogen nor sulphide of ammonium should produce a precipitate in its aqueous solution, nor should the latter be coloured yellow by diluted sulphuric acid. On mixing the aqueous solution with recently-boiled starch solution and afterwards adding chlorine water no blue zone is developed." Of *Salicylate of Sodium* the following is given as characteristic:—"Small white crystalline scales, soluble in equal parts of cold water, less soluble in alcohol, very little in ether. An aqueous solution of 1 part in 10 should have a faintly acid reaction, and should yield a red-brown colour with solution of chloride of iron. In its aqueous solution, addition of hydrochloric acid produces a copious precipitate, which may be completely dissolved by shaking with ether. Solution of barium nitrate does not disturb the aqueous solution. A sample of the solution mixed with enough alcohol to prevent the production of a precipitate by the addition of nitric acid is not rendered turbid by nitrate of silver." It would be well, we think, if the Committee would reconsider the proposition to introduce another class of preparations, viz., *Tincturæ ex Herbis Recentibus*.

TINCTURES OF FRESH HERBS,

And endeavour instead to reconcile the slight difference in strength, &c., between these and the old officinal *Succi*. A slight modification in the process of preparing either one or other, or a change in the strength would assimilate the two preparations and render one unnecessary. The alcoholature

of the French Codex, for example, correspond very closely to the tinctures from fresh plants here proposed, and these are neither more nor less than concentrated juices, being prepared from equal parts of the juice and 90 per cent. alcohol. The Committee have quite properly added the two well-known juices, namely, *Succus Belladonnae* and *S. Hyoscyami* to those now officinal, and a judicious assimilation and extension of the principle should, we think, exclude the necessity for the new class of preparations here proposed.

GODFREY'S CORDIAL.

IN the *New York Druggists' Circular*, Mr. J. B. Moore has the courage to speak a good word for Godfrey's Cordial. To say that we can get along without remedies of this class is, in his opinion, next to mentioning an impossibility, as long as our little ones are subject to colicky pains, flatus, and restlessness. Of course, he recognises that these remedies are used much too readily. They ought only to be a last resort, but when all the mother's or nurse's care has been spent on endeavouring to coax the little sufferer to sleep, he considered a dose of a medicine combining anodyne and carminative properties is likely to cause less harm to the system than a continuance of pain and irritation from colic, teething pains, or unsightly fretfulness will do to the nervous system and the life-long temper. He therefore thinks it desirable that an official formula should be adopted, and he recommends a modification of Godfrey.

As made by the published formulas, Godfrey's cordial contains insufficient carbonate of potassium and oil of sassafras to be of any earthly account, so far as medicinal activity is concerned; at least its effect must be very slight. Each fl. oz. contains only about 1½ grain carbonate of potassium, and but ½ of a minim of oil of sassafras, and the dose for a child from six months to a year old is 20 to 30 drops. Consequently, Godfrey's cordial is really but little better than laudanum mixed with molasses and water.

Now, it is of paramount importance that all infant anodyne remedies, intended for popular use, should contain antacid and carminative properties in conjunction with the anodyne.

The formula recommended by Mr. Moore is as follows:—

Deodorised tincture of opium .. .. ..	..	..	..	1½ fl. oz.
Molasses (New Orleans) .. .. .. ..	..	..	..	1 pint
Brandy .. .. .. ..	..	..	..	6 fl. oz.
Boiling water .. .. .. ..	..	..	..	22 fl. oz.
Bicarbonate of sodium .. .. .. ..	..	..	..	1 troy oz.
Oil of sassafras .. .. .. ..	..	..	..	½ drachm
Oil of peppermint .. .. .. ..	..	..	..	½ drachm
Carbonate of magnesium .. .. .. ..	..	..	..	3 drachms

Mix the brandy with the boiling water in a half-gallon bottle. Rub the oils with the carbonate of magnesium in a mortar for about ten minutes. Triturate the mixture thoroughly with 8 fl. oz. of the hot menstruum gradually added: then transfer the mixture to the bottle containing the remainder of the menstruum, and shake the whole vigorously. Then set it aside, shaking occasionally, and when cool filter through paper, and add through the filter sufficient water to make the filtrate measure 28 fl. oz. In this dissolve the carbonate of sodium, and add to the solution, first the molasses, and then the tincture of deodorised opium; mix well, and, if necessary, strain through muslin.

This forms a nice clear mixture, free from cloudiness or deposit, and is agreeable to the taste.

Preparations to be administered to infants in drop doses should be as nearly homogeneous as practicable.

The reverse of this is a serious objection to such instances as Dalby's carminative.

Deodorised tincture of opium, which is recommended above, is of about the same morphia strength as laudanum, but is prepared by making an aqueous fluid extract of opium, concentrating, agitating with ether, decanting the ethereal solution when it has separated, evaporating off all the remaining traces of ether; and, finally, adding ½ pint of alcohol to 1½ pint of fluid extract, so that the 2 pints of tincture shall contain the strength of 2½ troy oz. of opium free from narcotine and from the odorous principle.

RAILWAY RATES.

MR. JAMES PLATT, in his book entitled "Economy," discussing monopolies, makes some remarks on railway rates which are worth noting. "Parliament," he says, "acted rashly in giving over the carrying trade of the country to these great corporations. True, it was originally intended that the companies should only be the owners of the roads, and it was thought that private individuals would run their traffic over the companies' lines, and they were authorised to charge 'tolls' for the use of their lines, as companies formerly did for the use of their bridges. It was on this supposition that these toll clauses, for the most part taken from the Canal Act, were introduced into the various special Acts of railway companies. But it was soon found that traders were not willing to become carriers upon the railways of this country, and also, that there were very serious legal as well as practical difficulties in the exercise of that right, which was expressly reserved to the public by the Railway Clauses Act, 1845, section 90. That section, which makes it lawful for any person or company, upon the payment of the tolls, to use the railway with their engines and carriages, was soon discovered to give the trader no right to use the 'stations' of the company; and more recently, it was decided that the Court of Chancery could not compel a railway company to work the points and signals of its railway to facilitate the use contemplated by the section. So, practically, the rights of the public are put aside, and the railway companies have, under the powers conferred upon them (Vic. 8, chap. 20, sec. 86), become the sole carriers upon their lines of railway, and have, of course, run all the long-distance carriers 'off the road,' except Sutton, Globe, and others who, by collecting a lot of small parcels, and making the same into large bales, get the lot carried at a minimum rate, instead of the maximum, and thereby confer a great benefit upon the public and create a large income for themselves. The companies want looking after. An error made in a bill led to our discovering that a railway company had been charging us 2*l.* 15*s.* per ton instead of 2*l.* 3*s.* 4*d.*; on five bills amounting to 2*l.* 12*s.* 3*d.*, they had to return us 1*l.* 11*s.* 11*d.*, or 22*1*/*2* per cent. It is so difficult to know what you ought to pay; they have six rates of charges: special, 1*l.* 1*s.* 8*d.*; 1, 1*l.* 11*s.* 8*d.*; 2, 1*l.* 17*s.* 6*d.*; 3, 2*l.* 3*s.* 4*d.*; 4, 2*l.* 15*s.*; 5, 3*l.* 10*s.* per ton. The scale varies according to the description of goods; the public in general are quite ignorant of this. At the booking offices no questions are asked. But it is time the public know that, unless you say what a parcel or bale contains, they always charge you the highest, or No. 5, rate. Another point not generally known is, that by an old Act of Parliament (only acted upon since October, 1877), under the heading, 'Small Parcels, Single Articles, &c.', there is the following clause: 'For the carriage of any single article, not exceeding 500 lbs. in weight, the companies may demand any sum they think fit.' Our commercial members of Parliament ought at once to take steps to cancel an Act that gives the railway companies such facilities to 'overcharge,' which since October, 1877, they have 'mutually agreed to do.' I found this out when we complained of a bale weighing 45 lbs., at 2*s.* per cwt., being charged 1*s.* 6*d.* instead of 10*d.*; and one weighing 1 cwt. 1 qr. 16 lbs., at 2*s.* per cwt., charged 3*s.* 6*d.* instead of 2*s.* 10*d.* Over the 500 lbs., they must keep to the Act of Parliament, as to 'maximum charge'; and for a bale of 7 cwt., at 2*s.* per cwt., we are only charged 14*s.*; but very often, when the Act fixes them to so much per ton per mile, it gives them the power to charge a 'reasonable' sum for loading and unloading goods, for collection and delivery, and for any other services incidental to the business of a carrier. As a rule, a lump sum is charged, and if any demur is made thereto, the 'surcharge' is accounted for by these 'extras.' Manufacturers, who pay the railways very large sums, have complained for years of this surcharge; but to bring the matter before a court of law, or before the Railway Commissioners, is a very heavy responsibility, as it is so difficult to know what 'law' is."

A VERMONT man has willed his picture-gallery to a blind asylum. The patients are supposed to be the only persons who can really appreciate the collection.—*Boston Commercial Bulletin.*

ARTIFICIAL DIGESTIVE AGENTS.

BY J. MILNER FOTHERGILL, M.D.

IT has been thought well to insert the diagram of the digestive tract with each article, for the convenience of the reader. Consequently, reference will be made to it to illustrate certain points in the present paper.

If the reader will refer to it he will see that the artist has made a distinct ring at the foot of the gullet; this is to represent the circular fibres which close the gullet-orifice of the stomach during digestion. In sundry persons this ring is so weak that it permits of the contents of the stomach regurgitating through it during the digestive act. Such persons are "ruminating animals." On the other, or intestinal, outlet, a narrowing is depicted to represent the pyloric ring. The ring is familiar to all from its being frequently the seat of cancer, though not the sole seat of primary cancer of the stomach.

These two rings close the stomach during the digestive act therein, so that its contents cannot escape. The muscular wall of the stomach is of considerable thickness, and its movements are powerful; consequently, if the stomach were not converted into a "closed bag" during the active movements of digestion its contents would escape. The contraction of these two muscular rings prevents egress of the contents of the stomach by either orifice during the digestive act. As soon as some of the food is sufficiently digested it commences to pass the pyloric ring, which relaxes partially; at last it completely relaxes, and the contents of the stomach, whether fully digested or not, pass out into the intestinal canal.

The secretion of the stomach is acid, and, by the combined action of this acid and the pepsin, the albuminoid materials are converted from "proteids" to "peptones," i.e., they have been liquefied. By the muscular movements the contents of the stomach are rolled over and over, so as to be brought more thoroughly in contact with the solvent gastric juice. The disintegrating process commenced by the teeth in the act of mastication is continued further, as seen in the manner in which the constituent fibrillæ of a bundle of muscular fibres fall asunder. The connective tissue which binds fibril to fibril is melted out by the action of the juice, and the isolated fibres are then more readily themselves attacked and dissolved. When the gastric juice is imperfect in quantity or in solvent power, then this disintegrating process is incomplete, and masses pass into the intestines, giving rise to much discomfort. The gastric juice also dissolves the albuminoid envelopes of fat-cells, and liberates their contents.

Many years ago a Canadian, named Alexis St. Martin, had the front wall of his stomach shot away by a gunshot accident, which wound he survived till very lately. This wound never healed, and thus gave Dr. Beaumont an opportunity of observing the process of digestion. He noted that many circumstances, as exhaustion, long fasting, the general health, mental conditions, the amount and character of the food taken, affected the duration of the act. Beyond this, he found the flesh of wild animals was more readily digested than that of domesticated animals. He found that, on the whole, beef was more quickly digested than mutton, and mutton, again, than veal or pork. The average time occupied betwixt taking the meal and the complete emptying of the stomach through the fully relaxed pyloric ring was from three to four and a half hours. He further observed that the presence of indigestible materials retarded and interfered with the digestion of the other matters. This is an important observation.

It is well to bear these facts in mind from their general value as bearing on digestion. If indigestible articles of food are indulged in the good effects of an artificial gastric solvent will be largely thrown away.

The gastric solvent "pepsin" is only operative in the presence of an acid. Consequently artificial pepsin should be given during the time and period of gastric digestion. After a meal, either immediately or within an hour, ought the artificial solvent to be swallowed. Beyond this precaution as to time pepsin requires no cautions—except the important one of seeing that the preparation used is a genuine operative article. How the chemist has to determine this is a

matter not falling within my elected province. Pepsin is sold as a fluid, as a powder, or in tablets, or better still, in pill. It is impaired in potency if brought into contact with an alkali. It is usually prescribed with an acid.

So much then for the gastric portion of the digestive act and its solvent agent "pepsin." "The essential property of gastric juice is the power of dissolving proteid matters and converting them into peptones" (M. Foster). Consequently it is useless to combine pepsin with cod-liver oil, no advantage being gained by such combination.

If the reader will refer to the diagram he will see that just below the pyloric ring the bowel receives the bile and the pancreatic secretion by a common duet. With this admixture new changes are instituted. The bile contains soda salts in combination with the bile acids. These render the "chyme" (as the pulpy mass, the product

digestion into dextrine and sugar. Peptones (the digested albuminoids) and the dextrine and sugar, as soluble matters, pass into the radicles or terminals of the portal vein, and are carried to the liver. With their history in the liver we are not here concerned.

Now as to fat. No action has, to any practical extent, been exerted upon fat so far. If solid fat, its albuminous envelope may have been more or less dissolved by the action of the gastric juice; but that is all. So soon as the chyme receives the bile and the pancreatic secretion, however, the solution of the albuminoid capsules is continued, and as the fat escapes it is emulsionised. An emulsion of fat is merely its reduction into very fine minute particles, such as can be taken up by the lacteals of the intestinal villi, which may be said to "eat" the fat globules. These convey it away to the thoracic duct.

Starch albuminoids and fat are, then, digested by the pancreatic secretion.

Now, as to the use of artificial pancreatic secretion. If it could be introduced by a tube into the duodenum below the orifice of the common duet, then the troubles of the dyspeptic would be famously alleviated. But this has not yet been rendered practicable. So it has still to be taken by the mouth.

This entails the difficulty of the acid stomach lying betwixt the mouth and the duodenum. How can the artificial digestive agent be safely conveyed through that acid gulf? This subject has greatly exercised the minds of many.

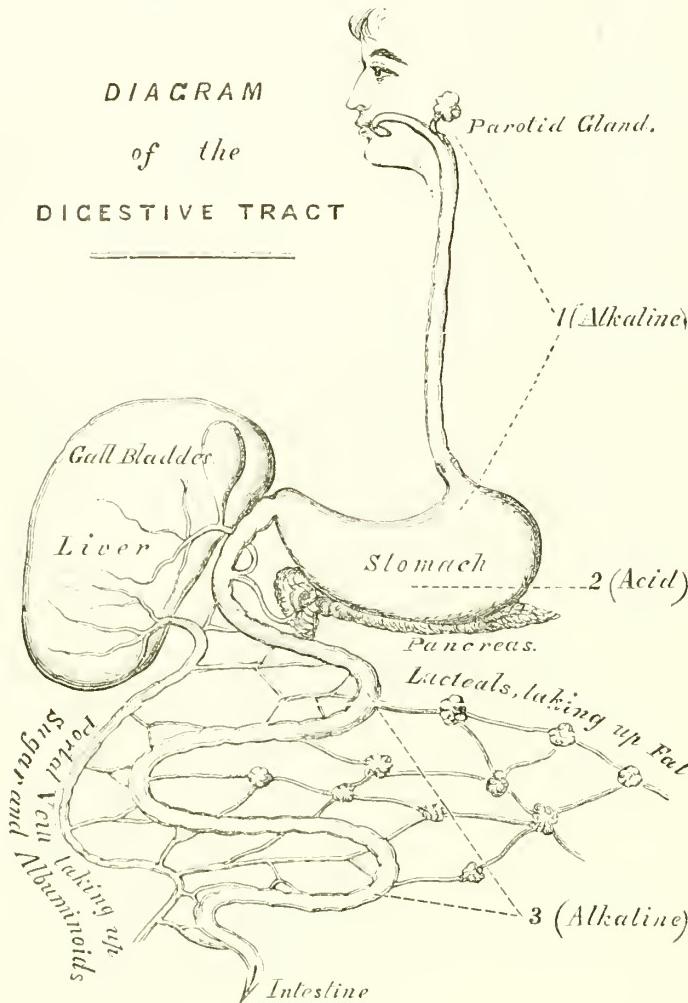
Dr. Roberts has solved the difficulty fairly satisfactorily by the addition of 10 or 15 grains of bicarbonate of soda in solution to each dose of the liquor pancreaticus—the preparation he advocates. He calls this "the alkaline guard." This passes it safely through the stomach, "just as a guard of soldiers sees a merchant conveyed over an unsettled frontier infested by robbers." There is still a difficulty left for which no amount of forethought can efficiently provide against, and that is the amount of acid in the stomach varies, and is not a fixed amount. Consequently a fixed dose of alkali is not always sufficient to neutralise it. On the other hand an excess of alkali is to be avoided. This is just the incalculable factor found in most matter in this imperfect world. This alkaline guard renders the dose disagreeable, for liquor pancreaticus itself is a bland fluid with little taste at all. This "alkaline guard" need not necessarily consist of soda; there are circumstances when potash or magnesia are indicated as more suitable.

Pancreatic preparations may be taken with fat about two hours after a meal with advantage. Added to cod-liver oil they aid in its digestion.

One great matter to be solved is an emulsion of oil, to be taken by those whose stomachs are irritated by fat taken with a meal. Many persons abandon fat as a factor in their dietary, because it upsets their stomachs; and then they ultimately suffer from want of fat in their tissues—a common history with consumptive persons. For such individuals an emulsion of fat or oil, taken about two hours after a meal, would solve the difficulty. It might be taken with or without some pancreatic preparation. Nature

provides us with a splendid emulsion of fat in milk and cream. In milk, however, the fat is accompanied by a large amount of fluid; and even is beyond the reach of many purses, especially when a small quantity only is required at once. Consequently, for some time past I have been experimenting in the direction of emulsionising oils by means of fresh bile, in the proportion of two drops of bile to an ounce of oil. But a commercially successful article has not yet been attained, as the emulsion tends to separate after a time. When this emulsionised oil can be made a success, and flavoured with some essential oil, then a great boon to those who reject fat will be secured. In some cases of phthisis the cod-liver is passed by the bowel *en masse*, untouched by the digestive act. In such cases an emulsionised oil might possibly be digested. Emul-

DIAGRAM
of the
DIGESTIVE TRACT



of gastric digestion, is termed) alkaline, and in this alkaline medium the pancreatic ferments are operative. Among these is a potent solvent of albuminoids, "trypsin." This continues the digestion of albuminoids commenced in the stomach. "Although the chyme, or product of gastric digestion, which escapes through the pyloric orifice into the duodenum contains much azotised matter in a state of actual solution, a considerable proportion of it is still only reduced and mechanically suspended, and the solution of the latter is continued in the intestinal tube" (W. B. Carpenter). The ferment which continues the digestion of albuminoid (azotised) matter in the upper bowel is the trypsin, operative in an alkaline medium!

There is also diastase in the pancreatic juice, which converts the starch which has been left over from the salivary

sions made with alkalies are soaps, and repulsive. Emulsions made with gums have huge fat-granules; emulsions made with bile have granules about as small as those of milk or cream. Of course the smaller the granule the less emulsing in the bowel does the fat require, in order to be reduced to that size that it can enter the orifice of the lacteal.

An artificial emulsion of oil may fairly be classed among the list of artificial digestive agents.

Such then is the digestive act in its three divisions; each with its own ferment, as to the first two; while the third contains several ferment, with a complex action. According to the normal position of the natural ferment must be the use of the artificial ally, in order to be properly operative. The increased demand for artificial digestive agents at the present time renders precision in their use imperative.

PHARMACY IN AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

MELBOURNE, VICTORIA, October, 1881.

THE attractions of Fiji have induced some of our Victorian pharmacists to commence business at Suva and Levuka, and bitter complaints are made as to the very arbitrary ordinance passed by the Government on July 1 last. The ordinance repeals an Act relating to the sale of poisons, which made it compulsory to obtain a permit from the medical officer before any poisons could be obtained, and adopts the Colonial and English practice, simply making it necessary for the chemist to keep a record of all poisonous articles supplied otherwise than on the prescription of a medical man, the record specifying to whom and for what purpose they were supplied. But though this ordinance remedies one defect of the discarded enactment, it leaves others not less prominent still in force. The *Fiji Times*, of July 13, commenting on the pharmacy regulations of the island, asks:—

"Does it not seem an anomaly that, while the apothecary is required before his registration to produce the diploma certifying that he has satisfied the Pharmaceutical Society of Great Britain as to his being fully competent to perform all acts and functions connected with the practice of his profession, the exercise of which is permitted by the Imperial statute; that while Colonial certificates are absolutely refused, as proof of that ability, and that while the holders of such qualifications, in common with the uncertificated aspirant, are required to pass an examination before the chief medical officer previous to their registration; we say, does it not seem an anomaly that after giving all these guarantees of ability and competency, and paying a 5/- fee for registration, the ordinance should distinctly prohibit the exercise of those functions distinctly permitted by the Imperial and Colonial Acts, and restrict the duties of the successful applicant to matters which any shop-boy could perform after a year's probation behind the counter? Yet this is the position in which pharmacists were placed under the old, and in which they are continued under the new ordinance. The registered chemist may dispense the prescription of the medical practitioner, and may sell the wares which constitute his stock-in-trade, but, after satisfying his examiners as to his thorough knowledge of the qualities and properties of his drugs, if he dare to look at the tongue of man, woman, or child, suffering from the most commonplace ailment, and, from the vantage-ground of his officially-approved knowledge, presume to recommend the most ordinary aperient or astringent, he shall be liable to a 10/- penalty or a month's imprisonment."

The same paper says further:—

"It may be well to ask upon what principle of ultra-conservatism are the holders of Colonial certificates required to pass an examination in Fiji before being permitted to exercise the limited and circumscribed functions allowed under this ordinance. The doctor's Colonial diploma is accepted; the Chief Justice is content with the lawyer's certificate of admission to the Colonial bar; the Marine Board is satisfied with the mariner's Colonial qualification why then is the English certificate of the pharmacist accepted while the Colonial diploma is regarded as so much

waste paper? If a man was competent in Australia or New Zealand, surely he is competent in Fiji; then wherefore this invidious distinction between the English and Colonial certificates?"

An important alteration has been recently made in the law relating to apprentices under the Pharmacy Act in this colony. The Act formerly did not make it compulsory for an apprentice to pass his preliminary examination at any specified time, and the consequence was that there were frequently cases of apprentices in their second or third year's service before they attempted to pass. The new regulations which have just received the assent of the Governor in Council provide that—

Every person must, before he enter into articles of agreement to be an apprentice, within the meaning of the Pharmacy Act, 1876, pass a preliminary examination before the Pharmacy Board, or before some person appointed by it in that behalf, in Latin, English, and arithmetic.

The adoption of these regulations will be of great value, and prevent a number of persons from entering a business they were entirely unfit for, but so long as there were no educational restrictions, the apprenticeship was a mere matter of form.

By the courtesy of Mr. C. H. Yeo, the honorary secretary of the Queensland Pharmaceutical Society, I am in receipt of a copy of the Queensland Pharmacy Bill, which was introduced to Parliament on August 11 last. The general principles of this Bill agree very closely with the Victorian Pharmacy Act. It is, however, much to be regretted that the term of apprenticeship and course of study required are not made uniform in all the Australasian Colonies. In the Queensland Bill an apprentice is required to serve only three years. There are examinations in *materia medica*, botany, and pharmaceutical and general chemistry; but there is no mention of any examination in practical pharmacy, nor any provision for a "modified examination."

The delegates to the Pharmaceutical Conference in London have just received by this mail a copy of the photograph of the International Pharmaceutical Congress excursion party at Henley-on-Thames.

The letter enclosing the photograph says:—"We also wish to have a *souvenir* of your visit, and propose to place in an album the portraits of all the delegates and foreign visitors present at the Congress."

At a special meeting of the Pharmaceutical Society of Victoria, held on October 7, a long discussion took place in reference to certain alterations of the rules, which were proposed by Messrs. J. C. Jones and Ross. Clause 9 was altered, making it necessary for persons wishing to become members of Council to be nominated by two members of the Society.

Mr. Jones also proposed an addition to clause 17, giving the Council power to grant out of the interest of the Bencovil Fund a sum not exceeding 5/-, to be applied in the relief of any distressed persons, whether they had been members of the Society or not.

Mr. C. R. Blackett opposed this proposition, and said, although it might seem hard not to be able to afford relief to all applicants, he could not think that the Council would be acting fairly to apply money subscribed by the members of the Society to the relief of persons who had not contributed one shilling towards it.

The suggested alteration was not carried.

It was moved, as an amendment to Mr. Jones's motion, that clause 17 remain unaltered, and that no money be voted to any persons who are not or have not been members, their widows or orphans. The amendment was put and carried.

Mr. Ross proposed to substitute voting for members of Council by ballot instead of by proxy.

The discussion on this proposal was adjourned until November 4.

A FRENCH PATENT MEDICINE HOUSE.—The great Paris business of medical specialties, formerly known as "Maison Frère," and for some years since the property of M. Ch. Torchon, who recently died, was sold by auction on December 2, and, after an active competition, was bought by M. Torchon's widow for 10,500,000f. (420,000L.) The representative of an English company bid up to 9,000,000f., but then retired from the competition. This house is the owner of Belloc's charcoal, Clertan's perles, and many other well-known French specialties.

PROFESSOR ATTFIELD ON A PHARMACEUTICAL CURRICULUM.

THE RELATION TO EACH OTHER OF EDUCATION AND EXAMINATION, ESPECIALLY WITH REGARD TO PHARMACY.*

BY PROFESSOR ATTFIELD, F.R.S., ETC.

MAN'S universal desire for health has created a co-extensive demand for drugs. To supply this demand there has naturally arisen in every civilised country a class of men termed druggists, chemists and druggists, or pharmacists. In Great Britain the class was originally largely evolved from the grocer and the herbalist, and in this country the supply of drugs still flows to a small extent in old channels. Medical practitioners, also, it is true, in England, largely supply the demand for drugs, but with scarcely an exception they are only drug distributors, standing between the public and the real druggist who manufactures or elaborates for their use the raw drugs of the *materia medica*. So that practically the supply of drugs is, in Europe and America, either already, in the nature of things, in the hands of the pharmaeist, or is to him alone more or less rapidly being relegated.

The pharmacist, on his side, has in nearly every country kept pace with the times, always fairly well fitting himself to surrounding circumstances. Discerning the true requirements of the community, and, of course, his own interests, he has, during the past 50 years, turned his attention to the production of drugs having the maximum of efficiency with the minimum of unpleasant odour, flavour, and appearance. To this end he has carefully studied physical, chemical, and botanical science. In England, just about 40 years ago, a large number of pharmacists banded themselves together into a society "for the purpose of advancing chemistry and pharmacy, and promoting an uniform system of education of those who should practise the same," and they started one metropolitan and four or five provincial public schools of pharmacy, where longer or shorter courses of lectures were delivered on the sciences just mentioned, and on *materia medica*. In 1868 the fruits of the labours of these pioneers were of sufficient promise to warrant the Legislature requiring that all pharmacists should be so educated, the selected test of education being examination, and the society alluded to—the Pharmaceutical Society of Great Britain—having the great compliment paid it of being appointed the examining body. Thenceforward no person was allowed to call himself a chemist and druggist or pharmacist unless he passed a given examination, the efficiency of the selected test not being then for a moment questioned.

That was 13 years ago, and from that time to the present no serious objection has been raised to the action respecting what was believed to be compulsory education then taken by the Legislature with the concurrence of the public and of pharmacists themselves. None well could be raised. For, the model pharmacist, that is, the pharmacist who acts best for the public weal and his own welfare, the man who fears neither the permanent influence of "stores" nor any other form of mere trade competition, is the man who can say, "I guarantee every preparation on my shelves to be trustworthy, either because my professional skill in analysis has enabled me thoroughly to test it, or because it has been made under my own personal supervision from materials which my professional knowledge of botany or chemistry has enabled me to prove to be thoroughly reliable." And the legislation of 1868 was, so far as would be seen at the time, calculated to foster the growth of pharmaeists of the type just sketched. The public could not justly complain of such legislation; for the change was a benefit, and even if there were any risk of better knowledge requiring better remuneration, had not the public already in all directions been paying enhanced prices for presumably better things without complaining? Were not and are not most things more expensive than they used to be? The medical practitioner supported the change: for pharmacy

thus promised to become a better handmaid to medicine. Nay, the medical man hinted that, with well qualified pharmacists, only some possibly adjustable interests of his patients would prevent his giving up the practice of pharmacy altogether. The pharmacist himself gladly supported the legislation; for in due time would not the solid advantages he could offer the public enable him to quench the petty but harassing competition of the huckster and draw to himself the drug distribution carried on at the general practitioner's dispensary?

But where are the signs that the all-round advantages expected from compulsory pharmaceutical examination will ever come to pass in Great Britain?

That question cannot yet be answered. The reply to it belongs to the future. British pharmacists themselves, however, have not lost hope. They still have unbounded faith in their policy, the policy that, putting the public welfare first and the interest of the pharmacist second, has in it the first elements of success—the policy summed up in the one word education. But surely in thirteen years there should be some evidence of progress? Undoubtedly: and probably some could be adduced. To tell the truth, however, there is a temporary hitch in the organisation. The instrument selected as the test of pharmaceutical education, namely, compulsory examination, has not proved to be of the degree of trustworthiness that was anticipated. Education and examination are—temporarily, no doubt—out of gear. The examiners are not satisfied. Their questions are answered, yet, they say, the examinees are, evidently, not educated. Educators in the public schools are appealed to. In reply they point to empty benches. The flaw in the machinery is thus at once apparent, and the examiners thereupon at once show how it may be removed, and how the wheels of sound education and examination may be once more made to eog together.

[The lecturer then quoted the opinion which the London Board of Examiners appended to their report in July, 1880, to the effect that a compulsory curriculum at some recognised school of pharmacy was desirable if practicable. The Scotch Board had expressed a similar opinion, remarking, however, that the subject was not free from difficulties.]

The examiners are, in short, of opinion that before a candidate is examined at all he should produce documentary evidence that he has duly attended courses of education of sound and trustworthy character.

But why is any such evidence necessary? Why not examine all comers? If a man has knowledge, does it matter how or where he has obtained that knowledge? Why is not examination itself, standing alone, a sufficient test of competency?

The answers to these questions are sixfold, at least:—

Firstly.—Much of what a candidate ought to know does not readily lend itself to formulation into question and answer. It is one thing to know, and tell an examiner the words in which a lecturer or an author describes a principle, and quite another to really know and understand, and show that one knows and understands, that principle. Principles are but slowly apprehended, especially by the class from which pharmaeists are drawn, at all events in England—for pharmacy is here too unremunerative to attract any large proportion of men of great brain-power. And so far from judging of such men's extent or power of grasp of chemical, botanical, or physical principles in half an hour, you must watch them at their work for weeks, or hold them in unpremeditated conversation occasionally during a month or months before you can pass a trustworthy judgment on their grasp of principles. The very best kind of knowledge is just that which least readily lends itself to formulation into question and answer at a short examination, or at any such official testing process of practicable duration. And what cannot readily be made the subject of examination students are, to say the least, tempted to neglect.

Secondly.—The more precise and reducible you render knowledge, even the knowledge which does admit of being formulated into question and answer, the less living and real, the less applicable to the work of one's life, does it become. Precise and reducible you must make it if it is to serve the purposes of official examinations. The public will not afterwards put their questions to you in this precise manner. Difficulties will not present themselves in life as they are presented in the examination room.

* A paper prepared for the Manchester Chemists and Druggists' Association, by request of the Council of that Association, and read, by the author, to the members on December 1, 1881.

Thirdly.—Official examiners cannot, in the time at their disposal, satisfactorily distinguish between an ephemerally-charged memory and a well-trained mind. If a candidate answers your questions you must give him corresponding marks. You cannot tell in a costly, and, therefore, necessarily short, examination whether those answers have been rapidly stuffed into his memory during the past five or ten weeks, or whether they are the product of his sound assimilation of knowledge during the past five or ten months. You cannot tell, nor can he, until it is too late, whether his house has been erected on the sand or reared upon a rock, for you have not the time and he has not yet had the power to look to its foundations.

Fourthly.—Examination of all comers encourages the nervous man too little and the brazen man too much. If you know nothing of your candidates nor how or where they have been educated, you are, for your means of judging of the men's knowledge, thrown back on to the men themselves and to what they can then and there produce. And there and then mere fluency and much assurance will outrun modest diffidence and an unready flow of words. Some men do not respond to a *vivā-voce* examination. They say, "Give us a written examination, and we shall have time and opportunity to collect our thoughts; at a *vivā-voce* examination we are placed at an unfair disadvantage." Others, by the way, do not respond to a written examination, and say, "We are not ready writers; put your question orally in some other form, or break it up a little, and you will find we really do possess the knowledge." Many students who can well work out an experimental process, or in the course of weeks can and do give to a teacher or to an employer good evidence that they are well trained, cannot lucidly describe what they know, especially in the hurry of examination. These men may be perfectly competent to discharge their duties in that walk of life to which examination is the portal, yet will be plucked if allowed credit for that knowledge only which they can produce in a particular form at a particular moment.

Fifthly.—In official non-pharmaceutical examinations, in which the judgment of an examiner is mainly a matter of inference, such as most of the examinations at the University of London, the bases of inference are broader, wider, and deeper than they practically can be at our pharmaceutical examinations. Inferences drawn from evidence, of which the limits are narrow, are, *pro tanto*, liable to be erroneous. They contain an excessive amount of the element of chance, and, unfortunately for the present case, it is useless to put many questions which test the man's real brain-power, his power of thinking for himself—questions the answers to which cannot come from his memory, answers which can only be thought out. For my experience, at all events, of young men, and these are chiefly of the class from which English pharmacists are drawn, shows me that, as a rule, their power of thinking for themselves is not sufficiently mature at the qualifying age to admit of its being largely called upon for examination purposes.

Sixthly.—At our pharmaceutical examinations, where a knowledge of parts only of sciences is expected, there is positively no guarantee that the area of education at the public schools or classes is the same as the area of examination. At the present time in English pharmacy, although on the one hand the area of education at any public provincial school or set of classes, or even at the Pharmaceutical Society's own school, and on the other hand the area of examination may, and probably do, more or less overlap, there is no guarantee that the teachers are teaching what the examiners desire or that the examiners will ask what the teachers have taught. Hence, by the way, the empty benches seen at such schools and classes.

Here, surely, are reasons enough why unaided examinations, that is, examinations having no connection with the properly-conducted educational courses or classes supervised by public pharmaceutical associations or societies, are insufficient tests of competency; reasons enough why any Board appointed to conduct such examinations should ask, as our Beards do ask, that the instrument or machine given to them for testing education should be repaired and strengthened.

Of course the uninitiated cannot at the first glance understand this state of things. Most men in their time have had to engage servants and have not found this examination of candidates a matter of very great difficulty. A few

questions asked and answered and a period of probation agreed upon, and the thing is done. But official examiners have not the advantage of a period of probation, and even if they had, is one week's or one month's trial of a man always sufficient to show that he can do what he professes to do? A few questions asked and answered are admittedly insufficient for testing candidates for situations, otherwise why require a period of probation? They are as insufficient for the purposes of official Boards of Examiners as they are for private purposes. But there remains this greatest difference of all between private and public examinations. The examination, by a master, of a would-be servant is not prepared for, or only prepared for in the sense in which long experience or study is preparation. Such an examination is not *specially* prepared for. A well-known pharmacist, who had been in business a third of a century, said at the Conference on Pharmaceutical Education at Brighton (see *Pharmaceutical Journal* for September 7, 1872) that he would undertake to tell how a man had been instructed the very first time he saw him hold a pair of scales. An excellent plan, doubtless, if the man had not previously been "prepared" for the examination. But, as Professor Michael Foster then said, "If a cram-man had to prepare a pupil for that gentleman, he would say to the pupil, 'Be very careful how you hold the scales.'" The merchant who chose his clerks by noticing from his window whether the applicants in coming up the path to the door kicked aside a broom, or stepped over it, or carefully picked it up and placed it against the wall, would have been less successful in his diagnosis than he is represented to have been, had a "coach" round the corner previously, for a consideration, made known the test to the applicant.

Be assured that any special preparation of your candidate reduces the value of his answers to a point within measurable distance of zero, and the value of your inferences from those answers also to that point, whether you are a private or a public examiner. The knowledge is got up for the occasion, and with the passing away of the occasion there will be a passing away of the knowledge. And you and your candidate will, so far at least as any examination is concerned, have been placed in false positions. Take care, on the other hand, that the state of preparation of the man is not special, but general, or, so to say, natural; that it has been attained with due deliberation, due assimilation, due experience, and then, and not till then, will question, answer, and inference be trustworthy.

Do your best to prevent young men, now or in the future, parading a semblance of knowledge gained from other men's summaries. Teaching by summaries is deprecated by all authorities on education. The summaries may take the form of lectures, of tutorial instruction, of manuscripts, or of books. In all forms these purchased summaries are, at best, weak reeds, affording mere temporary support, and having decidedly demoralising tendencies when their temporary power is passed off as something inherent in the student himself, which is what is done when he passes examinations by their aid alone. To depend on summaries is to do that which is harmful to the mind and the morals. To cultivate and depend on the power of making summaries is to do that which produces strength of mind and self-reliance. And a pharmaceutical student need not do this with the whole or even the greater part of the subjects of chemistry, physics, botany, &c. It is not desirable to attempt to make of every young pharmacist a Faraday, a Linnaeus, or a Dumas, though we may hope that pharmacy will never be behind other callings in furnishing science with great men. The principles of chemistry, botany, or physics can be properly taught by courses of lectures of length appropriate to the requirements of pharmacists, by tutorial instruction of appropriate extent, and by text-books of due dimensions. And if a student attending such lectures will make his own summary of those lectures, or, attending the class of a tutor, will make his own summary of the instruction, or, reading a manual, will make his own summary of that manual, he will have acquired powers of great value. But when the lectures are themselves summaries, when the instruction is itself a summary made by the tutor, when the book is already a summary, and especially when the summaries are taken into the student's memory in the shortest possible time, then, although the pupil's memory may become charged with a quantity of neatly-producible matter, probably carrying him

through an examination, it is superficial, and will prove to be on the whole ephemeral.

For a guarantee of the possession of knowledge you must not, however, depend on a certificate of education alone, for alas ! neither teacher nor pupil may have done their duty. You must not depend on any certificate of examination alone, for the modern variety of "preparation" may have made that examination very largely a mere form. Look both to education and examination. Have some guarantee that the education is sound, as, for instance, that it has been carried on for a proper length of time by duly qualified teachers acting under some public association or public society. Let its soundness be guaranteed by "the fierce light of public attention," and then examine the man, in the area of the education, to ascertain that he has taken proper advantage of his opportunities. Strengthen the hands of your Boards of Examiners in the direction they think so desirable, namely, in the power of "requiring from candidates for the Minor and Major examinations a certificate of having completed a curriculum at some recognised school of pharmacy."

[Professor Attfield next quoted the unanimous resolution in August last of the Pharmaceutical Council approving the recommendation of a compulsory curriculum made by a special committee appointed to consider the relation to each other of pharmaceutical education and pharmaceutical examination. After tracing the growth of what might be called the Pharmaceutical Society's system of education, he maintained that the want of harmony between that education and the examinations which had prevailed since 1863 was not due to the system itself being faulty nor to any change in the system, but he insisted that it was traceable to the reflex action of the system of examination.]

It is traceable, in the following manner, to a liability, that could not be foreseen, of each of the pharmaceutical examinations, in common with every selective examination not fitted to a public curriculum, to become, according to all good authorities, that for which and for sake of which a student works, instead of, as originally designed, a test of work undertaken for the sake of education. This liability rests, as regards all such examinations, say all these authorities, on an unforeseen difficulty in accurately distinguishing between or giving credit to a trained mind as against a charged memory by any system of examination that can practically be carried out with a reasonable expenditure of time and money. According to such authorities this weak point leads (in most of the students or candidates for selective examinations) to the practice of seeking privately what no public system of education could stoop to afford, namely, a sort of teaching which charges the memory for the purposes of, and for the period of, examination, but which is of a kind that, according to the same authorities, does not in itself produce permanent knowledge, and does not in itself include due training of the mind. The Pharmaceutical Society's public system of education is specially devoted to the training and storing of student's minds, and not to the mere charging of their memories. Students can gain credit at examinations for having their memories charged and cannot gain commensurate credit for having their minds stored and trained. What follows ? Students accept systems of teaching which do cheaply charge their memories and reject systems of education, like the Society's, which are more specially devoted to the training of the mind. Hence the want of legitimate relationship between education and examination, and hence a spiritless and more or less failing condition of the Society's public system of education throughout the whole country. The majority of students will not spend time and money on a system of education specially devoted to the training of the mind and only indirectly adapted to the improvement of the memory, while they can gain their object, namely, the passing of an examination, with the expenditure of less time and money, even though it be at the cost of not having their minds well trained. They know the value of a licence to practise pharmacy, and take the shortest, instead of the best, way of obtaining it.

A widely recognised method, and probably the best method, of preventing students temporarily charging their memories, or getting them charged, instead of securing the permanent training of their minds, a method applicable to pharmacy, is to adapt, or fit, or unite the official examina-

tions to properly founded, properly maintained, and properly supervised public systems of education. In other words, a public educational curriculum of character, extent and cost, appropriate to the needs and means of pharmacists, being deliberately laid down, the subjects should be taught by the teacher and learned by the pupil with the utmost thoroughness. Any approach to mere "preparation for examination" should be discouraged in every way, inasmuch as that process has in an unforeseen manner become something quite different and far inferior to "the acquirement of sound education." The official examinations should then be sent to test the area of the curriculum to the fullest extent that selective examinations can test education; the examiners' inferences respecting the knowledge and state of training of the candidate being, however, drawn as well from the information afforded by his schedule, or certificate, or report, or statistics respecting his education, as from his answers to their questions. The examiner himself would not see this schedule, its satisfactory character being guaranteed by an official before the day of examination, as is usual at other examining boards.

Such adaptation of examination to education is in pharmacy, apparently, practicable and easy. For a properly-arranged public system of general pharmaceutical education is already organised by the Pharmaceutical Society of Great Britain with fair completeness at Bloomsbury, in London, and with more or less completeness by local officers at several public provincial schools of pharmacy connected with certain of the provincial pharmaceutical associations. Possibly other public classes also are available.

Should expediency render desirable a gradual introduction of measures having for their object the sound permanent pharmaceutical training of the pharmacist, the official recognition by the Pharmaceutical Boards of Examiners of a public system of general pharmaceutical education might for a time be recognition of permissive curricula, with, in that case, the offer by the Pharmaceutical Society of the greatest incentives and encouragements to follow the system that could be devised. The recognition of permissive curricula, however, would much complicate the machinery of examination. There are other means, also, of providing for the vested interests of the large body of pupils and assistants already engaged in pharmacy.

Such measures would render education little if at all more costly than at present. It would render examination easier. Easier for the student, who would know exactly what to learn ; easier for the teacher, who would know exactly what to teach ; easier for the examiner, who would know exactly in what to examine.

In conclusion, the re-establishment of close relationship between the Pharmaceutical Society's sound system of education and the system of examination is, even of itself, most desirable and important. But as a means to an end such renewal of concord has still greater value. For the outcome must be such an improvement of the condition and position of the pharmacist that pharmacy will be the better fitted to be the handmaid of medicine and the trustworthy servant of the public.

After the lecture a very cordial vote of thanks was passed to Professor Attfield on the motion of Mr. Benger, seconded by Mr. B. Robinson. Mr. W. Wilkinson, Vice-President (who occupied the chair in the absence, through ill-health, of Mr. W. S. Brown, the President), moved, and Mr. J. T. Slugg seconded a resolution expressing an opinion in favour of a curriculum, and these gentlemen, as well as Messrs. Woolley, Siebold, and Bowden, who also spoke, all expressed themselves warmly in endorsement of the views of the lecturer.

THE FUTURE OF INOCULATION.—Customer : " My nephew is just starting for Sierra Leone, and I thought I could not make him a more useful present than a dose of your best yellow fever. Would you tell me the price, please ? " Chemist : " Well, ma'am, the germs are so difficult to cultivate in Europe that I would advise your waiting for the next West Indian mail, when I am expecting a nice fresh consignment from St. Thomas. . Meanwhile we would recommend our half-guinea traveller's assortment of the six commonest zymotics, and could add most of the tropical diseases from stock at 5s. each. We have some nice Asiatic cholera, just ripe, but they are more expensive."—*Punch.*

MISCELLANEOUS FORMULÆ.

INK FOR ZINC LABELS.—A correspondent of the *Garden* recommends a saturated solution of sulphate of copper (blue vitriol) in water as the cheapest and best thing for the purpose. The writing should be done either with a hard-wood stile, or, better, with a blunt quill pen.

PILLS FOR CHRONIC BRONCHITIS.—(M. Guéneau de Mussy.)—

Tar	1 gramme
Benzoin	50 centigrammes
Dover's powder	1½ grammes

Make 20 pills. One to be taken before each meal.

FREEZING MIXTURE.—The chemical factory of Finzelberg, in Aldernach, manufactures and sells a mixture with the aid of which a temperature of -15° to -30° C. ($+5^{\circ}$ to -22° Fahr.) may be obtained. It is composed of—

	Parts
Calcium chloride	20
Magnesium chloride	20
Sodium chloride	6
Potassium chloride	13
Water..	41

On mixing this salt with an equal volume of snow, the temperature of the mixture is depressed to -15° or -20° C. With an equal bulk of snow and crushed ice at -5° C. a cold of -30° C. may be obtained.

LABEL VARNISH.—An excellent varnish, which dries in a few seconds, and produces a colourless, smooth, and shining coat, is prepared, according to R. Kirsten, of Hamburg, from the following :—

	Parts
Sandrac	53
Mastic	20
Camphor	1
Oil of lavender	8
Venice turpentine	4
Ether	6
Alcohol	40

The ingredients must be macerated for weeks, until everything is dissolved. It is, therefore, advisable to prepare a sufficient quantity to last for some time, at once.—*Pharm. Zeit.*

SOLID GLYCERIN.—Mr. Fairthorne (*American Journal of Pharmacy*) gives the subjoined formulæ :—

Take of—

French gelatin	120 grains
Glycerin	1½ fl. oz.
Water	½ fl. oz.

Cut up the gelatin in small pieces, add it to the water in a wide-mouthed vial, melt it in a water-bath, add the glycerin previously warmed, shake the mixture and pour into moulds, which keep in a cool place until solid. The glycerin-shapes can then be taken out and wrapped in tinfoil or waxed paper. This is a clear, elegant, ice-like preparation. A drop of otto can be added while the preparation is fluid if desirable. When applied to the skin the latter must be previously moistened. A clear preparation, but of cerate consistence, can be made thus :—

French gelatin	100 grains
Starch	60 "
Glycerin	12 fl. drachms
Water	4 "

Dissolve the gelatin in the water as in the other recipe, rub the starch with the glycerin, and heat the mixture on a sand-bath in a cupola, constantly stirring until it becomes translucent through the starch dissolving; add the solution of gelatin to it, and pour into moulds. If for toilet purposes it can be perfumed, and moulded of cylindrical form by pouring into wide glass tubes, corked at bottom. To remove from the tube, take out the cork, pour a little hot water over the tube, and blow through, when the solidified mass will fall out. Let it lie on glass, and be kept cool until the outside has become solid. This can be applied to the skin without previous wetting.

FLUID EXTRACT OF CHINESE TEA.—

Take of—

Best imperial tea	2 troy oz.
Glycerine	8 fluid oz.
Water	8 "
Stronger alcohol	16 "

To the tea in fine powder add sufficient of the mixture to properly moisten it, and pack it in a percolator; pour in the remainder of the menstruum, and let it stand four days; then continue the percolation, using diluted alcohol until 24 fluid ounces have been received. The mass in the percolator is removed, and 1 gallon of boiling water is added to it. After macerating 24 hours express, filter, and evaporate to 8 fluid ounces, mix with the percolate, and filter. This has been found to exceed either coca or guarana in relieving headache.

CHEAP BOTTLE-WAX.—

	Lbs.
Common strained rosin	6
Yellow beeswax	½
Lampblack	1

Melt the rosin and wax, and stir in the lampblack. If coloured wax is wanted use window-glass rosin and white beeswax in the same proportions, adding Venetian red or other pigment for colouring in place of the lampblack.

AMBROSIA, a new food :—

	Grammes
Tuscany chestnuts (in flour)	455
Dutch potatoes (in flour)	305
Bohemian lentils (in flour)	125
Windsor beans (in flour)	125
<hr/>	
Mix, and obtain	1,010
Take away	101
<hr/>	
You have	909
To which add, vanilla (in powder)	91
<hr/>	
	1,000

of an excellent food.—*Moniteur des Produits Chimiques*.

ESS. YLANG-YLANG :—

Ol. nnon. odorat. ver	gtt. 10
Otto rosarium	gtt. 2
Ol. anrant. flor.	gtt. 10
Tinct. moschi	gtt. 25
Spirit. jasmin..	16 fl. drachms
Aq. flor. aurant.	2 fl. drachms

COLD CREAM.—Mr. R. F. Fairthorne, in the *American Journal of Pharmacy*, finds something new to say on this well-worn topic. The oil of sweet almonds, he says, can be replaced without disadvantage by nut-oil, which is obtainable at about one-fourth the price. He gives the following formula :—

Take of—

Nut oil	½ lb. avoirdupois
Spermaceti	3 oz. "
White wax..	1½ oz. "
Rose water..	½ oz. "
Oil of rose	18 drops

The method of preparing the ointment is original. The ingredients are put into a wide-mouthed bottle, placed in a hot-water bath, and allowed to remain until the solid portion is melted; then the bottle is taken out, and, having tightly corked or stoppered it, the mixture is thoroughly shaken; a uniform emulsion will result, which is to be agitated until solid. Mr. Fairthorne says that nearly all the ointments of the Pharmacopœia can be made by agitation in this manner more expeditiously and with a smoother product resulting than by stirring.

ORANGE AND LEMON SYRUPS.—Mr. Fairthorne (*Am. Journ. Pharm.*) recommends the following process for producing fine flavouring syrups :—Take the peel of six oranges or lemons, cut them very thin, make a tincture by macerating in 6 fluid oz. alcohol for three days. Filter and pour on 1 lb. (avoird.) sugar, and allow the alcohol to evaporate spontaneously. When dry dissolve in $\frac{1}{2}$ pint of water, in which (in the case of orange syrup) $1\frac{1}{2}$ oz. citric acid or (in the case of lemon syrup) $2\frac{1}{4}$ oz. citric acid has been previously dissolved. This mixture is added to 11 pints of simple syrup.

Scientific Notes:

On Chemistry, Pharmacy, Botany, Materia Medica, &c., Original, Selected, and Translated.

THE MANUFACTURE OF NITROUS OXIDE.

DR. E. F. STEVENS thus describes his method of procuring nitrous oxide gas. Use burning gas for heating. Fill the retort half full of fused ammonia; do not pulverise it, but use as sold. Suspend the retort on the arm employed for that purpose, and turn the gas on full head, using a common Bunsen burner. Tap the bottom of the retort from side to side over the flame. When the ammonia is about half melted, shake the retort so that that which has clung to the sides may be thrown into the liquid portion. Connect the retort with the jars and set the burner directly under the centre. When the mass reaches the boiling-point, turn the flame half down, and keep it at that point until all the ammonia is converted into gas. In this way a meter of 45 gallons' capacity can be filled in one hour from the time of lighting the gas.—*Dental Cosmos.*

TINCT. FERRI CHLOR.

SOME one in Boston, U.S. (presumably a pharmacist), having met with numerous complaints from physicians as to the uncertain effects produced by the several different preparations of the tincture of chloride of iron, applied to Dr. Squibb, the eminent pharmaceutical manufacturer of Brooklyn, for information, and Dr. Squibb's reply was sent to the *Boston Journal of Chemistry* for publication. Dr. Squibb says:—"In regard to tinct. chl. iron, the last Committee of Revision of the U.S.P. made a mistake, which is to be corrected in this revision. Tinct. chloride of iron is not fit for use until at least six months old. I never send out any that is less than six months old, and have now changed to make it a year old. An important part of its therapeutic value depends upon ethers that are generated slowly from the large excess of HCl (hydrochloric acid) and the alcohol, and anyone who will compare the sensible properties of an old with a recently-made tincture will see how very different they are. The present U.S.P., therefore, in permitting the acid solution of the chloride to be kept and sold separately, so that the pharmacist can make up his tincture as he wants it, makes a great mistake, and on that account I have never made nor offered the solution of the U.S.P. for sale."

Dr. Squibb further explains that in his list is included a sol. ferri chlор. which is quite different from that of the U.S.P., and is not fit for making tinctures. It is known as the Pravaz solution, and is intended only for surgical purposes.

Dr. H. Hager recommends that tincture of chloride of iron be mixed with simple syrup and then with milk, this mixture not affecting the teeth nor the usual styptic taste being apparent.—*Drugists' Circular.*

OLIVE-OIL ADULTERATION.

THE manager of the Marseilles public laboratory gives the following methods for detecting adulteration in olive with other oils:—Beetroot oil contains sulphur, and saponifying the oil with an alcoholic solution of caustic potash will bring out the sulphurous acid. Sesame oil can be found by adding a little muriatic acid to a small piece of sugar, and shaking these along with some of the oil—the sesame oil will be recognised by its red colour. Cottonseed oil has to be treated with nitric acid, and on shaking a coffee-brown colour will be seen.—*Analyst.*

KOEMPFERIDE.*

E. JAHNS has carefully examined koempferide—a substance discovered some years ago in the root of *Koempferia galanga* and finds that this substance is by no means of so simple a nature as Brandes then supposed, but is composed of at

least three bodies, which the author terms, respectively, "Koempferide," "Galangine," and "Alpinine." Of these three substances the author has at present only studied koempferide, and reserves a description of the others for a future paper.

Koempferide ($C_{10}H_{12}O_6$) crystallises in pale-yellow flat needles, it melts at 221° C. to 222° C., and upon raising the temperature carefully it sublimes in part without decomposition. Koempferide is almost insoluble in water; it is soluble in 400 parts of cold alcohol of 90 per cent.; more readily in hot alcohol of the same strength; it is further soluble in ether and in glacial acetic acid, and to some extent in boiling chloroform and benzole. It dissolves in alkalies with an intense yellow colour, but very slightly, however, in a solution of sodium carbonate, without decomposition of the latter, for when added in any quantity to that salt it expels the carbonic acid from it. Concentrated sulphuric acid dissolves koempferide with a yellow colour, and after standing a while the solution exhibits fluorescence. Fuming sulphuric acid, added in slight excess, dissolves with a grey colour, which upon further addition of the acid passes over into wine-red.

Alcoholic solutions of koempferide are coloured green by iron perchloride, and precipitated by lead acetate. Solutions of silver salts, or alkaline solutions of copper salts, when heated with koempferide, become reduced. Koempferide is not decomposed when boiled with dilute acids.

Beyond this, the author has studied several other reactions of koempferide, and finds a great resemblance between it and a number of natural yellow-colouring matters, or such as can be prepared from glucosides, especially quercitin, rhamnetin, and morin.

COD-LIVER OIL AND IRON.

THE October number of this Journal, 1880, p. 453, and the July number, 1881, p. 306, contained respectively two methods of preparing cod-liver oil containing iron, the one by L. Draisma van Valkenburg, and the other by M. Stromeyer; and now the author of the first of these papers—L. Draisma van Valkenburg—in an article sent to the *Pharmaceutische Zeitung*, November 16, 1881, remarks that, much to his surprise, there is still a continual demand for another preparation of the kind. For this reason he requested Professor van der Burg to give his attention to the matter, and, with the permission of the latter, gives in the paper above mentioned the following recipe for the new preparation:—

	Parts
Cod-liver oil .. .. .. .. ..	.. 100
Soda lye (sp. gr. 1·18), .. .. .. ..	.. 5
Iron protosulphate precipitated from alcohol, 10 per cent. aqueous solution .. .. ..	.. 20

The soda lye is poured into the cod-liver oil and thoroughly mixed up with it; the mixture is then heated over a water-bath, and the solution of iron protosulphate added. When this has been effected a continuous current of air is passed quickly through the mass, care being taken that the temperature of the whole rises to 85° C. to 90° C. This temperature and the current of air are kept up until the preparation is formed, which point is recognised by a lively frothing, for which reason the vessel used must not be quite full at the beginning. The time required for the formation of the compound depends partly on the amount of air required, as well as the way in which it has been admitted, and on the quantity of cod-liver oil operated on.

Thus prepared, a compound is obtained which, upon settling, becomes quite clear, is of a dark garnet-red colour, and contains about 0·25 per cent. of iron. In this state it has an unpleasant smell and taste, which is due to the large proportion of iron. A useful preparation is obtained by diluting this compound with cod-liver oil in proportion of three parts of the former to two of the latter.

The chemistry of the process may be explained as follows:—In the beginning the iron protosulphate is converted into hydrated iron protoxide, which latter is then converted by the oxygen of the stream of air into iron peroxide, and this at the moment of its formation (*in statu nascendi*) combines with the fatty acids of the cod-liver oil to form a soluble compound.

OIL OF CORIANDER.*

SINCE Trommsdorff and Kawalier examined the oil obtained by distilling coriander seeds—the fruit of *Coriandrum sativum*—not much attention has been given to this body, and the dictionaries and text-books now in use mention it as consisting of a mixture of a volatile oxygenated oil and a less volatile oil containing but little oxygen. The author of this paper, Brunnow Grosser, has recently re-examined oil of coriander, and corrects these statements.

According to Brunnow Grosser coriander oil has a composition represented by the formula $C_{10}H_{18}O$, and is accordingly isomeric with borneol and the monohydrate of oil of turpentine.

Heated with anhydrous phosphoric acid, or by itself in a sealed tube, oil of coriander gives up water, and, according to the conditions employed, either two molecules of the oil lose one molecule of water, whereby the compound $C_{20}H_{34}O$ is formed, or one molecule of oil gives up just one molecule of water, and forms a terpin, $C_{10}H_{19}$.

Treated with iodine, wherein great caution is required, on account of the explosive nature of the mixture, coriander oil yields cymol.

Coriander oil forms a solid compound with sodium, and yields compound ethers. When very gently oxidised oil of coriander yields a ketone, or further oxidation gives rise to the formation of various other bodies, one of which is isomeric with adipic acid. A complete or ultimate oxidation splits it up into carbonic, acetic, and oxalic acids.

PHARMACOLOGICAL PROPERTIES OF ASPIDOSPERMINE.

THE author of this paper, Dr. G. Gutmann, has conducted several experiments to ascertain the pharmacological properties of several aspidospermine preparations, and gives in the *Archiv für Experimentelle Pathologie und Pharmakologie*, November 8, 1881, the following results of his researches.

I. Aspidospermine has a poisonous effect on the organs of respiration and circulation of both warm and cold blooded animals.

II. In the case of cold-blooded animals paralysis of the respiratory organs, accompanied by a weakening of the heart's action, first takes place, death ensuing by the action of the poison on the noend vital.

III. In the case of warm-blooded animals the heart is the first affected, followed by a considerable weakening of the pulse, a reduction of the temperature of the body, sometimes very considerable, in most cases accompanied by a gradual dyspnoea. Death ensues from paralysis of the heart.

POST-MORTEM DETECTION OF LEAD, SILVER, AND MERCURY IN ANIMAL ORGANISMS.

F. HOPPE SEYLER'S *Zeitschrift für Physiologische Chemie*, November 5, 1881, reprints a prize essay of the medical faculty of Berlin University, by Victor Lehmann, "On the Best Method of Testing for Lead, Silver, and Mercury in Animal Organisms, post mortem," the pith of which is subjoined :—

Detection of Lead.

Lead is found in nearly all organs and secretions. Lead salts, even such as are difficultly soluble, as the sulphate and phosphate, are more or less absorbed by the stomach and its accessory organs; the insoluble salts, however, such as lead soap, for instance, are not absorbed.

Tests for Lead.—1. The most delicate test for lead is sulphuretted hydrogen in alkaline solutions of the substance to be tested; by this means the presence of 0·01 per cent. of lead may be detected in aqueous solutions of the kind, a perceptible brownish coloration being thereby formed. 2. In the absence of organic substances lead may be as completely separated out by electrolysis as by sulphuretted hydrogen. 3. To effect the complete separation of lead from animal organs or secretions a previous destruction of the organic substance is necessary.

Detection of Silver.

Silver has been detected in urine, gall, faeces, and in a number of organs. When silver salts are absorbed by an

animal organism they seem to undergo a reduction in every part of the body, metallic silver being found deposited in the organs—a fact which has been observed in the cases of persons who have suffered from argyria.

Tests for Silver.—1. In pure aqueous solutions of its salts, the most delicate test for silver is hydrochloric acid; this re-agent produces a perceptible turbidity in aqueous solutions of silver nitrate containing 0·5 to 0·25 per cent. of that salt. 2. When urine or animal organs are to be tested for silver these must first be fused with soda and potassium nitrate; the fused mass is then lixiviated with water, the residue dissolved in nitric acid, and filtered off, the filtrate evaporated down to a small consistency, dissolved in water, and tested for silver with hydrochloric acid.

Detection of Mercury.

Mercury is found in all organs and secretions of the body. In what way certain even insoluble salts of mercury, such as calomel, are absorbed by the animal organism, has not been definitely ascertained. Calomel passes over, for the greater part, into the intestines as sulphide of the metal, in which form it is ejected in the faeces.

Tests for Mercury.—1. The best method for detecting traces of mercury in urine and organs is that of Mayer, which consists in distilling these in a current of steam. By this means the presence of 0·01 per cent. of mercuric chloride may be detected in urine. 2. Another method, which is more convenient, but not quite so delicate, is the electrolytical method of Schneider. For this purpose the mercury is carefully converted according to his directions into iodide, and, if carried out in strict accordance with Schneider's injunctions, the presence in urine of 0·1 per cent. of mercuric chloride may be detected.

CHINOLINE MOUTH-WASH.

							Grammes
Chinoline tartras ..	..	..	..	..	..	..	1·5
Aqua destill. ..	..	..	..	..	..	..	140·0
Spirit. vini rectif. ..	..	..	..	..	..	..	20·0
Oleum menthae pip. gutt.	..	..	..	..	..	..	1·0

A teaspoonful to a wineglass of water forms an excellent refreshing and antiseptic mouth-wash.

In the case of caries, 1 part of the mixture is diluted with $\frac{1}{2}$ part of water.

ESTIMATION OF GLYCERINE WHEN MIXED WITH OTHER LIQUIDS.

THE following is Morawsky's process, published in the *Moniteur des Produits Chimiques*:—Glycerine forms with binoxide of lead the compound $C_3H_6O_3Pb$. Put 50 grammes of binoxide of lead in a crucible and weigh. Then add 2 or 3 grammes of the glycerine mixture to be examined. Keep it in a drying-closet for six hours, then raise to a temperature of 100° C. for an hour, and afterwards to 120° C. for two hours. The difference multiplied by 1·3429 gives the quantity of glycerine.

SOLID PETROLEUM AND PAPER BARRELS FOR PETROLEUM.

ACCORDING to a St. Petersburg paper, a German, Herr P. N. Dittmar, has practically solved the problem of rendering petroleum solid—a problem considerably studied by chemists of late in view of the large question of transport. A company has been formed in Russia to work the patent when completed. The transformation of the substance will not cost more than about 3d. per 36 lbs. (6 copecks per pood), whereas the casks now used increase the cost of petroleum about 2s. 4d. for the same quantity (55 copecks per pood), leakage not considered. The mode of treatment is not yet disclosed, and chemists to whom small samples of the solid petroleum have been sent have not been able to make out the nature of the foreign substances that are added in a proportion of 2, or at most 3, per cent., to solidify the petroleum. The reporter of the St. Petersburg paper saw the product; he says it is of a wine-yellow colour, and has the consistency of very stiff gelatine; it can be kneaded with the fingers like wax, and is yet somewhat breakable. A small piece of the thickness of a lead-pencil and about an inch long could

be lit at one end and held with the fingers. It melted like wax, and it was only after a little, when hot drops ran down, that the flame had to be blown out. The danger of fire is considerably less than with liquid petroleum. The product can be easily liquefied when required by the addition of vinegar, and the process is rapid. The vinegar in time separates out below and the petroleum above. It is not stated whether the same vinegar can be used repeatedly. It appears that the higher and low boiling hydro-carbons in crude naphtha are not affected by the solidifying agent; in which case the costly apparatus for fractional distillation might be dispensed with. The advantages of solid petroleum would be peculiarly felt in regions like the Caucasus, where the naphtha industry suffers through the dearth of suitable wood for barrels. In this connection we may note the fact that a whole cargo of petroleum was lately shipped in New York in paper casks. These casks are made by a company which has three works for the purpose—at Hartford, at Cleveland, and at Toledo. Some 3,000 are delivered daily; they are painted blue, and have iron hoops, and they are \$1.35 apiece (a price which could be reduced in case of large production). The advantages of these compressed paper barrels consist chiefly in the absence of joints and less loss on that account through leakage; great elasticity and less liability to fracture than where wood is used; lastly, less dilatation, and diminution of expenses thereby incurred. It is said the Standard Oil Company is going to substitute the manufacture of paper barrels for that of wooden ones, which it at present exports in large quantity.—*Times*.

CHINOLINE.

IN addition to the previous notes on chinoline which we have published on pages 121, 443, and 495 of this volume, the following is stated on the authority of Dr. Jul. Donath:—

He found it considerably reduce the temperature in experiments on rabbits, and retard the respiration. In all cases it seemed to have the same effect as quinine, and it has the advantages of being devoid of bitter taste, and much cheaper. Wine is kept bright for months by the addition of 0.2 per cent., and milk has been preserved from coagulating for 16 days by a similar proportion. His experiments lead to the conclusion that chinoline is a valuable remedy in malaria, whooping-cough, typhoid fever, and other complaints, and his observations are confirmed by independent experiments of L. Laewy and C. Salkowsky in St. Petersburg.

Chinoline being insoluble in water, it is administered as a salt, and Messrs. Scherings, who make it largely, recommend either the salicylate or the tartrate, especially the former.

LIQUOR ANTIMONII CHLORIDI.

IN a paper published in the *Archiv. der Pharmacie*, Band 219, Heft 5, November, 1881, E. Reichardt, of Jena, points out the defects in the several authorised methods of preparing liquor antimonii chloridi, and gives a formula according to which it may be easily prepared in a state of purity.

The employment of metallic antimony, which involves the use of nitric acid or aqua regia, is both costly and inconvenient. The best native sulphuret of antimony is not pure, and even by the aid of heat is but difficultly soluble in pure hydrochloric acid, which has a specific gravity of 1.124. The troublesome process of distilling the antimony chloride to get rid of arsenic, is unnecessary, since every trace of arsenic is precipitated by the sulphuretted hydrogen evolved by treating the sulphuret of antimony with hydrochloric acid, and it causes, moreover, a loss of material.

Owing to the fact that sulphuret of antimony is readily soluble in strong crude hydrochloric acid even in the cold, and that the presence of the impurities which occur or are liable to occur in this acid are of no importace, the author prepares liquor antimonii chloridi as follows:—

One part of finely-powdered antimony sulphuret is heated gradually to the boiling-point in a capacious bolt-head, with 4 parts of crude hydrochloric acid. After the evolution of sulphuretted hydrogen has ceased a small quantity of sulphuret remains behind; this is filtered off, and the filtrate diluted with six times its volume of water. The whole is then allowed to stand for some time, whereby basic antimony chloride is deposited in a crystalline form. The

supernatant liquor is then decanted off, the precipitate collected on a filter, washed two or three times with water, and dried at a temperature of 20° C. to 30° C.; 1 part of this air-dried crystalline powder is treated with 3½ parts of pure hydrochloric acid in the cold, with which it is digested for 24 hours with frequent stirring, and the whole filtered. The filtrate is then brought to a specific gravity of 1.34 to 1.36, either by diluting it with hydrochloric acid or concentrating it over a water-bath.

Characters and Tests.—A colourless or very pale-yellow liquid, which completely volatilises when heated. One part of it mixed with 5 parts of water, so as to form a paste, dissolves completely upon the addition of a few drops of sulphuric acid to a clear solution; when treated with ammonia in excess and filtered, the filtrate is clear and not of a blue colour (copper). When heated to 50° C. to 60° C. and treated with a stream of sulphuretted hydrogen gas no precipitate is formed.

ARTIFICIAL INDIGO.*

THE Baden Aniline and Soda Works,* where, as is well known, extensive experiments have for some time been carried on with the view of utilising Professor Baeyer's patent (see this journal, June, 1881, page 262), have at last abandoned the attempt, since they find that the cost of manufacturing the artificial article is too great to admit of its competing with natural indigo.

The same works now intend manufacturing alizarine blue for cotton printing (the chief use to which artificial indigo was to have been put), the method of imparting this colour to cottons having been ascertained.

COMMERCIAL BENZOIC ACID.†

As the result of certain recent investigations as to the source and quality of the various sorts of benzoic acid of commerce and its salts, Carl Schacht has found that there is a good deal of underhand dealing prevalent amongst some druggists.

In alluding to the potassium permanganate test for benzoic acid, the author expresses his conviction that the discrepancies in the results of former experimenters must have been owing to their having been misled in supposing that they each had before them in their respective cases when they made their deductions an acid of the quality guaranteed them by the vendor, whereas, in truth, this was never the case.

The potassium permanganate test is really a good one, and, whether employed with or without the addition of an alkali, affords a ready and easy means of distinguishing artificial benzoic acid from the genuine acid obtained from gum benzoin.

In operating upon the benzoates of sodium, the author dissolves 0.2 g. of the salt in 5 c.c. of distilled water, and adds 5 drops of a half-per-cent. solution of potassium permanganate solution in the cold. Sodium benzoate from acid obtained from the gum bleaches the permanganate solution very quickly, whereas in the case of all other kinds of benzoates the permanganate remains for a long time unaltered. On standing for about two hours the test solution containing the benzoate from gum benzoin exhibits a supernatant yellowish-coloured liquid above a stratum of brown flocculent precipitate, whereas the supernatant liquid is then dark green when other benzoates have been employed. When an alkali is added to the test solution the process is quicker and more marked.

The author has in this way examined all the varieties of benzoic acid of commerce and their sodium salts, and finds on comparing them with benzoic acid and benzoates specially prepared by himself, and therefore of known quality, that the drug known commercially as acidum benzoicum e gummis sublimatum is not as a rule what it pretends to be.

The purest and best benzoic acid is the genuine acid which is obtained from gum benzoin, of which that sort which is prepared in the wet way (*via humida parata*) costs now about 1l. 12s.; the sublimed variety costs about 1l. 10s. per kilo.

Then come the artificial sorts:—(a) That prepared from urine, 16s. per kilo; (b) that prepared from toluol, 8s. 6d. per kilo.

* *Chemiker Zeitung*, December 1, 1881.
† *Archiv der Pharmacie*, Band 219, Heft 5, November, 1881.

ON THE FORMATION OF CREAM OF TARTAR IN SEIDLITZ POWDERS.

AT the evening meeting of the North British Branch of the Pharmaceutical Society, held on December 1, Mr. William Gilmour read a paper on this subject. Common seidlitz powders are made of 3 parts (120 grains) of Rochelle salt, and 1 part (40 grains) each of acid carbonate of sodium and tartaric acid. The acid is $4\frac{1}{2}$ grains in excess of the amount required to neutralise the carbonate, and it might be assumed that cream of tartar would be formed to this extent, and to this extent only. But $4\frac{1}{2}$ grains of tartaric acid correspond theoretically to only 6 grains of the acid tartrate, and as this salt is soluble in about 200 parts of water, all that would be formed would be dissolved in the 6 or 8 ounces used to dissolve the powder.

But in practice the precipitate of cream of tartar from a seidlitz powder of the proportions named weighed 15 grains when dry; 45 grains of acid, or $9\frac{1}{2}$ grains in excess, gave a precipitate weighing 30 grains; while 50 grains, or $14\frac{1}{2}$ in excess, gave as nearly as possible 40 grains.

The carbonic acid present is the cause of this excessive precipitate. Let the ingredients of a seidlitz powder be put in a soda-water bottle with 6 ounces of water, and 30 grains only of tartaric acid, or $5\frac{1}{2}$ grains below the neutralising quantity, be added. Cork tightly, and shake gently. A copious precipitate even with this deficiency of acid will be formed.

The clue to these facts was gained while investigating the cause of the difference of the action on seidlitz powder of three samples of tartaric acid. It was found that the presence of 1 per cent. of water in two of the samples caused a difference of 10 to 15 per cent. in the effect produced.

MISCIBILITY OF GREGORY'S POWDERS.

Two years ago a paper by Mr. Wm. Gilmour on the miscibility of Gregory's powder was published in this journal. The conclusion reached was that when the calcined magnesia used was quite anhydrous the Gregory's powder was incorrigibly unmiscible; when the magnesia had absorbed 4 to 6 per cent. of moisture, either from the air or the other ingredients of the powder, it became easily miscible. Mr. Gilmour resumed the subject in a short paper read before the North British Branch on December 1. He had made further experiments, and found that carbonate of magnesia, when mixed with calcined magnesia, did not make a miscible Gregory's powder, but that if the rhubarb and ginger were first thoroughly triturated with about 5 per cent. of the carbonate, and the calcined magnesia afterwards added, there resulted a beautiful and quickly miscible powder.

In the discussion that followed, Mr. Nesbit said he had found that when the powder was made with the same lot of magnesia, but with different samples of rhubarb, there was much variation in the miscibility. In one sample which produced a non-miscible Gregory's powder, he found fully 4 per cent. of oil, which had been used to face the rhubarb.

Dr. Inglis Clark has found that Jenning's calcined magnesia contained 5·3 per cent. of H_2O and CO_2 , and absorbed 26·5 per cent. of water when exposed to a moist atmosphere. Pattinson's contained 1·3 per cent. of H_2O and CO_2 , and absorbed 5·3 per cent. of water. From experiments he detailed, the miscibility of Gregory's powder apparently decreased as the hydration of the magnesia increased. The results, however, were not entirely consistent, and might point to a slight degree of hydration as the best condition. Dr. Clark summarised his conclusions as follows:—1. That the non-miscibility is promoted as the exposure to moisture increases. 2. That it is best to have freshly-ignited magnesia, and to keep it in a dry place. 3. That it is better to have a damp magnesia to begin with, than to allow it to hydrate as pulv. rhei co. 4. That the hydration of the magnesia is the principal cause of the non-miscibility. 5. That the rhubarbs are important factors, though less so than the magnesia. Mr. Mackenzie knew of a customer who had laboured for a whole hour to mix a spoonful of Gregory. The addition of a little ponderous carbonate of magnesia would make the powder miscible.



SPECTACLE TRADE.—HERBERT & GODFREY v. TWEMLOW.

THIS case came before Mr. Commissioner Kerr in the City of London Court on December 10. The plaintiffs claimed 5*l.* for spectacles supplied, which the defendant said had been sent on probation, and had been returned to the plaintiffs.

Mr. Druiff, traveller for Messrs. Herbert & Godfrey, swore that he called on the defendant early in July this year, and obtained from him an order for spectacles not to exceed 5*l.* 10*s.* Defendant also asked for a small selection of folders on sale or return. He left a counterfoil of the order with the defendant. He did not see any witness present. Part of the goods were sold, part were sent on sale or return. An invoice was subsequently sent.

The Commissioner: The sending of invoices is nothing: it proves absolutely nothing.

Mr. Druiff: He did not remember what was said, the order was given in the ordinary course of business; Mr. Twemlow would not sign the order, but said he would put his slip on it. Two letters were received from the defendant, one on July 27 asking what discount was allowed, and one subsequently, stating that as he had found they had not put "on probation" on the invoice, he should refuse to take the spectacles. The goods were all sent back; the folders which had been sold on probation were taken out; the spectacles were returned to the defendant. [The order, of which a counterfoil was given to defendant, was brought into Court.] It was a common thing for chemists to go in for the spectacle trade; they had about 3,000 chemist customers.

The solicitor for the defendant then asked if there was any connection between the firms of Druiff & Druiff and Herbert & Godfrey, but the question was not allowed.

Mr. Twemlow said that he had never seen the order produced, and did not know what it was. He refused to take any such document from Mr. Druiff. He did not put the slip on himself, but Mr. Druiff asked him for one. He refused to take any of the goods except on sale or return.

A witness was called by the defendant who stated that he was manager of the medical lozenge department of Mr. Twemlow's business. He came into the shop on business while Mr. Druiff was there, and while standing behind the dispensing-counter, where the latter could not see him, he overheard the conversation. Mr. Druiff tried to persuade Mr. Twemlow to take 20*l.* worth of goods. Mr. Twemlow said, "No such thing. If you will send a few on sale or return I will try and sell them." He refused altogether to take the goods on any other terms.

Mr. Commissioner Kerr said he would find for the plaintiff, and give leave to the defendant to apply for a jury to set aside the verdict.

The case will be tried again before a jury on December 20.

THE SALE OF POISONS BY AGENTS.

In the Queen's Bench Division of the High Court of Justice on November 16, the appeal case of Templeman *v.* Trafford was heard before Mr. Justice Grove and Mr. Justice Lopes.

Mr. Clement Higgins (instructed by Mr. Henry Glaisyer, LL.B., solicitor to the Chemists and Druggists' Trade Association of Great Britain) appeared for the appellant.

Mr. Higgins stated the facts of the case and read the case granted by Oxford magistrates, which set forth that the appellant, G. R. Templeman, Assistant-Secretary to the Chemists and Druggists' Trade Association, on June 15 entered Mr. Trafford's shop, at 100 Friar Street, over which shop no name was painted up, and (*inter alia*) asked a woman who was behind the counter for a pennyworth of red precipitate, and was supplied by her with a packet of the

same, for which the appellant paid the said woman. The packet was not labelled with the name and address of the respondent, but was labelled in print thus: "W. Paterson, Chemist and Druggist, 3 Cowley Road, Oxford." The appellant took the packet and its contents away with him, and having analysed the contents, found the packet to contain red oxide of mercury, commonly known as red precipitate of mercury. It was admitted by the respondent that the appellant had been served with the red oxide of mercury at the shop situate 100 Friar Street aforesaid, of which the respondent was the occupier, and in respect of which the respondent alone was rated. It was also admitted by the respondent that red oxide of mercury was a poison within the meaning of the said Act. It was contended by the respondent that William Hay Paterson was a tenant of the respondent in respect of the use of one of the windows and part of the respondent's shop, and that he (the respondent) only acted as a servant to the said W. H. Paterson in the sale of such red precipitate, and in support of such contention he called the said W. H. Paterson as a witness on his behalf, who deposed that he paid respondent 4s. a month for the partial use of one of the windows and part of the shop, that he (the said W. H. Paterson) considered the respondent, if anything, was a servant of his, and that he employed him to sell goods for him, that he paid respondent no salary, but allowed him a commission of 10 per cent. on the sales; that he was accustomed to send down different articles to the respondent to be sold, but that he did not sell them to the respondent, nor did he ever invoice them to him, but that he kept an account against respondent, and if any of the goods were destroyed he should want respondent to pay for them. He considered the packet in question, sold to the appellant, was his property and not the respondent's. It was contended on behalf of the appellant by his solicitor that the packet was not properly labelled; that the respondent was not a servant of the said William Hay Paterson within the meaning of the 17th section of the Pharmacy Act, 1868, but was the seller of the poison, and ought to have had his own name and address distinctly labelled upon the said packet as provided by the said section. We were of opinion upon the facts before us that the contention of the respondent was well founded, and we therefore dismissed the information. The questions of law arising on the above statement for the opinion of this Court, therefore, are—(a) Were the justices right in drawing the conclusion from the evidence that the respondent was servant of the said William Hay Paterson within the meaning of the said 17th section? (b) If the said respondent was not the servant of the said William Hay Paterson, but was his agent, does such agency carry with it such a contract of service as to bring the respondent within the 17th section, or does it not? or, in other words, was the packet, in the opinion of the Court, sufficiently or properly labelled within the meaning of the said 17th section of the Pharmacy Act, 1868?

Mr. Justice Grove said it seemed to be more a question of fact than of law. As far as he could see, this sort of thing was not at all likely to happen again. If the Act was largely evaded in this way it might be important for the Court to decide it.

Mr. Justice Lopes said the justices were asking them to decide a point of fact which they should have found themselves. The case turned upon this, whether the respondent was a servant or not. How could they answer that?

Mr. Higgins said their Lordships would see that, according to the construction which he submitted ought to be put upon the section, this man (the respondent) could not have been a servant in point of law, or at all events within the meaning of the 17th section of the Act before the Court, and he thought that he should be able to show their Lordships that was so.

Mr. Justice Grove asked if it was a common practice for a chemist, like a solicitor, to lend his name to an unqualified person for the purpose of evading the Act.

Mr. Higgins said the appeal would not have been brought forward if this had not have been found to have been the case. There was an extensive evasion of the Act. A chemist carrying on business in one town would have an agency for the sale of his goods in another town or village, or in another part of the same town, as in this case. The unqualified person sold the poison with the name of the

qualified person upon it. With regard to the address, he contended it must be the address at which the poison was sold. He contended that the respondent under no circumstances could be the servant, because he was not the person actually conducting the sale; even if he were, the name used was not the name of the actual seller, or, at any rate, the address was wrong. The question was, Had the section of the Act been complied with by selling under colour of a label bearing the name of a qualified chemist who was not resident at the shop where the sale was made?

Mr. Justice Lopes: They say the respondent was the servant.

Mr. Higgins said if his construction of the section was right, the respondent could not be a servant within the meaning of the 17th section, and even if he were, the address on the packet of poison sold was not the address where it was sold, so that at any rate the address was wrong. But had the section been complied with by selling poison under cover of a label bearing the name of a qualified chemist who was not resident at the shop where the sale was made? He did not care about the punishment of this man or this woman: he only wanted to elicit a declaration of the law.

Mr. Justice Grove asked what benefit the chemist, who was behind the scenes, got by his lodging there and not having his name over the door.

Mr. Higgins replying, said that the duly-qualified chemist did not reside there at all, but that he lived at another place of business altogether. The object of it was that a chemist passes his examinations and becomes qualified as a pharmaceutical chemist, and then he is not content with his shop in Brighton, he desires to have a shop at Manchester and other places, and if he can do that by placing unqualified persons in those shops, he may then get a larger profit from his trade, but the public are then exposed to the danger of being served with poisons by unqualified persons, without a label bearing the name of any person who is liable to a breach of the 15th section. This case was a very illustrative one, because the chemist did not himself open branch shops, but sent goods to other shops which were already open for the sale of other things. He submitted that the defendant was not the chemist's servant. He sold the articles on commission, and for his own advantage, not that of the chemist, who did not reside on the premises, but merely rented a window in defendant's shop. If unqualified persons were permitted to sell drugs as the servants of duly-registered chemists, then a man may pass his examination, set up a central shop in London, with branch establishments all over the country, giving management of those establishments to unqualified persons, and exposing the public to danger to protect them from which the Act was passed.

Mr. Justice Grove remarked that some light was thrown upon the sense in which the word "seller" was to be construed by the provision in the section with respect to poisons included in the first part of schedule A, which said it should be unlawful to sell such poisons to any person unknown to the seller, unless the person was introduced by some one who was known to him, and required that the seller should make an entry in a book kept for the purpose, which should be signed by the purchaser. Evidently a person living in Aberdeen and establishing agencies throughout the country at a distance from his place of residence could not comply with this provision.

After a little further discussion Mr. Justice Grove asked who appeared for the other side.

Mr. Higgins said he believed no counsel had been instructed.

After a short consultation the Court gave judgment in favour of the appellant.

Mr. Justice Grove, in giving judgment, said he much regretted that the case, which was a very important one, should have been argued on one side only, because it is always very difficult for the Court to feel any firm reliance in its judgment when the other side of the question had not been placed before them. The question to determine was whether the packet of poison, the sale of which formed the subject of the prosecution, was or was not sufficiently and properly labelled within the meaning of the provisions of the Pharmacy Act. The whole question turned upon this—who is the seller? No doubt a difficult question might arise upon any construction put upon the word "seller." He was of opinion

t so far as the term applied to the present case, the seller ant the person who actually conducted the business where sale took place, not necessarily the hand that sold. For tance, he did not think the woman was the seller, nor did think that the chemist Paterson, who supplied the poison the respondent, and who lived some distance away, could regarded as the seller within the meaning of this section, cause, not living or carrying on business on the premises, could not possibly comply with the provisions of the tute. The section enacts that in addition to dulyelling the poisons with his own name and address, it shall unlawful to sell such poisons as arsenic, aconite, and sons of that description contained in first part of schedule A the Act "to any person unknown to the seller, unless produced by some person known to the seller, and on every e of any such article the seller shall, before delivery, make, or cause to be made, an entry in a book kept for that purpose, stating in the form set forth in schedule F to this t the date of the sale, the name and address of the puraser, the name and quantity of the article sold, and the purpose for which it is stated by the purchaser to be required, to which entry the signature of the purchaser, and the person, if any, who introduced him, shall be affixed," that as far as these particular poisons are concerned, the ler must enter these particulars in a book. Now, if the gment of the magistrates were right, a chemist living in e street could employ another person—an unqualified rson—residing in another street as a commission agent to l to the public, and he could not possibly comply with the ovisions of the statute. A person living at a distance can't possibly do so, he cannot conform to the provisions of e Act, and therefore cannot be considered as the seller of e poison. The object of the Act is the protection of the blic, and the protection afforded to the public and contemnated by Parliament is, that the person who controls the le of poisons should be a duly-qualified person with the knowledge of the article he sells, and should be on the spot control the sale. It might not be necessary that his handould be the hand that sells the poison; for instance, take e case of the eminent chemist Bell, of Oxford Street; one does not suppose that the late Mr. Bell personally sold all e poisons sold, or dispensed, at his establishment: he would employ for that purpose qualified persons, but would personally superintend the sale; it would not be necessary that his hand should be the hand that sold. Here, the chemist whose name is on the packet has nothing at all to do with e business where the sale takes place: he simply supplies e article which the respondent sells; and if that practice as allowed the Act would be completely evaded, for then e qualified person would not be the actual seller. He was, erore, of opinion that the answers to the questions put the justices must be in the negative, and that the facts now that the poison was not sufficiently or properly labelled, d that the justices were not right in drawing the inference hich they did from the facts before them.

Mr. Justice Lopes said the case entirely depended on the al meaning of the word "seller" within section 17 of this ect. Having agreed on that point, there was really no fficulty in the case. It appeared to be clear that the word "seller," as used in the 17th section, meant the person who kept the shop or place, or under whose control the place or op is where the article was sold, and he was further of opinion that that was a construction which was consistent ith the general poli y of the Act which had for its object e protection of the public against the sale of poisons by unqualified persons.

Mr. Higgins: Will your Lordship grant costs?

Mr. Justice Grove: No, we make no order for costs, as the respondent is not represented.

BENZOATE OF SODA IN WHOOPING-COUGH.—D. Tordeus, Brussels, writes that he has prescribed benzoate of soda in number of cases of whooping-cough, and that in all the cases the parents reported that the coughing fits began to minish in force and frequency after one or two days of treatment. He gives four grains of the salt every hour to a child of two or three years. The drug seems not alone to minish the force and frequency of the paroxysms, but also to exert a favourable influence on the mucous membrane of the respiratory tract, and to prevent the development of serious pulmonary complications.

BANKRUPTCIES AND LIQUIDATIONS.

S. COWBURN & Co., Manufacturing Chemists, Little Gomersal and Bristol.

THIS case was brought before the Chief Judge, Sir J. Bacon, on December 5, upon the hearing of an appeal presented by Mr. Freedman, a money lender at Bristol, against an order of the judge of the Bristol County Court, setting aside a bill of sale held by him over the debtors' property. The failure occurred in July last, and Mr. H. Fifth, of Bristol, was appointed trustee. Mr. F. Knight appeared for the appellant, and Mr. J. G. Wood for the trustee. The facts appeared to be these:—The debtors had obtained a loan of 40*l.* from Mr. Freedman, for which they gave him a bill of sale for 60*l.*, the sum of 20*l.* being charged for expenses and interest, and the amount was made repayable by instalments of 5*l.* per month. The bill of sale was executed on July 27, and the petition for liquidation was filed three days afterwards. The validity of the bill of sale was impeached upon several grounds, one of the objections urged being an untrue statement of the consideration, the debtors alleging that they had received 38*l.* 10*s.* only, and not 40*l.*, as expressed on the face of the document. The Chief Judge held that the bill of sale was perfectly valid, and reversed the decision of the Court below.

EVANS & CANT, Aniline Dye Manufacturers and Patentees, Stratford.

A FIRST meeting was held in this bankruptcy on November 29 before Mr. Registrar Brougham. The bankrupts, who traded at the Eastern Chemical Works, Marshgate Lane, Stratford, filed a petition for liquidation on August 8, returning their unsecured debts at 2,699*l.* 8*s.* 10*d.*, and debts fully secured 4,230*l.*, with assets 1,800*l.* 16*s.* 9*d.* Resolutions for the acceptance of a composition of 7*s.* 6*d.* in the pound were passed and registered, but, owing to the action of the mortgagees, the debtors were unable to comply with the resolutions, and an adjudication was entered upon the application of Mr. Henry Garrod, of 10 Arthur Street West, on the ground that the composition arrangement could not proceed without injustice or undue delay to the creditors. Proofs of debts amounting to 1,500*l.* were now admitted, and Mr. Charles Waters, accountant, Coleman Street, was appointed trustee, together with a committee of inspection, consisting of Mr. H. Garrod, 10 Arthur Street West, oil and colour manufacturer; Mr. S. H. Beckles, chemical merchant, 10 Lime Street Square; and Mr. Zurabeck, of Mincing Lane, chemical merchant. Next meeting, January 12.

J. A. FERRIS, Surgeon and Chemist, Buckingham Palace Road and Victoria Square, S.W.

AN adjourned meeting for the bankrupt's public examination was held on December 8 before Mr. Registrar Brougham. Accounts were furnished disclosing unsecured debts 3,077*l.* 8*s.* 9*d.*, and debts fully secured 915*l.*, against assets, as estimated at the date of a petition for liquidation filed by the bankrupt on May 19, 1,825*l.* Mr. E. C. Willis, for the trustee, opposed; Mr. Grain supported. The bankrupt having been examined, his Honour directed him to furnish particulars respecting certain jewellery, distinguishing between that which he and his wife respectively claimed. Adjourned to January 12.

LONDON AND PROVINCIAL SUPPLY ASSOCIATION (LIMITED).

Two petitions to wind up this Association, well known to pharmacists in consequence of the long litigation between the Pharmaceutical Society and itself, came before Mr. Justice Chitty on December 3. The first was presented by Mr. G. Watson, and the second by Messrs. Crosse & Blackwell, who were creditors for 620*l.* 6*s.* 10*d.* Mr. Watson, being a secured creditor, was willing that the order should be taken upon the second petition. Mr. Ince, Q.C., who appeared for Messrs. Crosse & Blackwell, said that a meeting of the creditors had been held, at which it was resolved that the order should be taken upon the petition of Messrs.

Crosse & Blackwell. On October 24, 1881, the company passed a resolution to wind up voluntarily, and Mr. Dubois was appointed liquidator. Afterwards the creditors were dissatisfied with this gentleman, and Mr. Reed was then appointed provisional liquidator. Mr. Romer, Q.C., who appeared for thirteen trade creditors to the amount of £1,656*l.*, objected to Messrs. Crosse & Blackwell assuming to act for the whole body of creditors. Mr. Byrne appeared for creditors to the amount of £3,374*l.*, being one-third of the entire debts of the company, and supported the petition. Mr. Langworthy appeared in support of the petition presented by Mr. Watson. After some discussion his Lordship made an order for winding up under the supervision of the Court, and referred the matter to chambers for the appointment of a liquidator. Mr. Ince said that the summons had been taken out to obtain the sanction of the Court to a sale of the stock now on hand. The provisional liquidator had found it impossible to sell the business as a going concern, and it was considered that the present was a very good time to put the stock up for auction, because grocers were now purchasing their Christmas stock, and it was anticipated they would come in and purchase. Mr. Romer objected to the liquidator being at liberty to sell unless his clients were allowed to take part in the sale, and suggested that the matter should be referred to the Chief Clerk. Mr. Ince said the provisional liquidator had made an affidavit to the effect that the business was now being carried on at a loss, and that he had endeavoured, though without success, to find a purchaser for the stock. An affidavit had also been made by Mr. Blackwell to the effect that, if the sale were postponed, many firms would have purchased their Christmas stock, and would not then bid for the goods now in the possession of the company. His Lordship thought it would be an advantageous thing for all parties to dispose of the stock at once, and accordingly made an order directing the provisional liquidator to sell.

Poisoning Cases.

ACONITE.—On November 24, John Murray, aged 70, farmer, died from the effects of a quantity of aconite.

AMMONIA.—G. T. S. Baker, Kingsland Road, London, aged 22 months, died on November 20 from poisoning by ammonia, contained in some liniment he had snatched from a washstand and drunk.—On November 30 Mrs. S. P. Miller, 58, widow, Stepney, died from the effects of a dose of ammonia, mistaken for medicine supplied by Dr. H. Taynton, 247 Commercial Road.

ATROPINE.—Laura Lunt, in the employ of Dr. Ackerley, Kremlin Drive, Garston, Lancashire, took some atropine from the surgery and swallowed a grain of it with a dose of chloroform. She recovered under treatment, and was charged on December 1 with attempting to commit suicide.

CARBOLIC ACID.—Hannah Runys, aged 42, of Hoxton, committed suicide on December 3 by drinking common carbolic acid.

CHLORAL HYDRATE.—H. F. Fickling, of Caledonian Road, who had habitually taken a mixture of potassium bromide and chloral hydrate, died on November 11 under circumstances which convinced the coroner's jury that he had been poisoned by chloral, though there was no evidence to show how it had been administered.—Mr. V. A. C. Amcott, a J.P. for Lincolnshire, aged 36, died on November 26 from the effects of an overdose of Ianter's solution of chloral. The jury returned a verdict of "Death from misadventure," adding that the Legislature should amend the Poisons and Patent Medicines Acts, as such patent medicines could be easily procured by persons wishing to commit self-destruction.

CHLORODYNE.—A child, A. M. Quick, died on November 14 from the effects of an overdose of Freeman's chlorodyne, administered by mistake by her parents. The jury "desired to caution parents and others against the use of patent medicines, more especially when advertised for the use of children, as they are calculated not only to mislead the public, but frequently to produce ill effects on those who use them."

HYDROCYANIC ACID.—Dr. Geo. Holt, of Leamington, was found dead in a field at Radford, on November 21, with a bottle of prussic acid and another of chloroform by his side. Verdict, "Suicide during temporary insanity."

HYDROCHLORIC ACID.—H. Brewer, aged 2, while playing near his father, who was soldering, drank some spirit of salts, and died on December 4.

LAUDANUM.—The following deaths have resulted from poisoning by laudanum:—James Bitfin, farmer, Spaxton, found dead on November 13; Adelaide Morgan, of Wandsworth, November 22; William Shearer, Leith, butcher, aged 68, on November 15; David Munro, Glasgow, on November 17; Jackson Robson, of North Shields, aged 40, on November 12.

LOTION.—Mrs. E. Carter, of Nottingham, committed suicide on November 16 by drinking lotion.

MERCURIC CHLORIDE.—On November 10, A. Jorgons, mate of the *Trio*, of Dublin, was charged at Bridgewater, on November 10, with attempting to poison J. N. Kelly, captain, by mixing corrosive sublimate in his tea. The evidence was circumstantial, though the mercuric chloride was found in the sediment from the tea, and the magistrates dismissed the case.

MORPHIA.—W. F. Hopkins, aged 22, student, who had been in the habit of injecting morphia subcutaneously for the relief of neuralgia, was found dead in bed on November 27. The appearances pointed to narcotic poisoning, and a verdict to that effect was returned.—At Poplar, on November 23, three children were poisoned by morphia powders sold at Dr. Harvey's surgery in mistake for teething powders. At the inquest, Edward James Cevan, of 451 Manchester Road, Poplar, a middle-aged man, said he was assistant to Dr. Harvey. He remembered a woman coming on November 23 for two powders for children about their teeth, and he served her, and charged her 1*½d.* each for them. He had attended the necessary curriculum and passed his first examination, and had been 17 years assistant-surgeon, and had never previously made a mistake. The symptoms under which the children died were morphia poisoning, and he must have administered that drug in place of the teething powders. He was convinced that was so from the fact that he found the morphia bottle outside the case instead of in its proper place, the cupboard kept exclusively for poisons. During the day he had been making chlorodyne, one of the constituents of which was morphia. It was his practice to call to the surgery boy, who had been there three years, and was more skilled in the whereabouts of the poisons than himself, for every article as he wanted it. In this case, having measured his morphia, he returned the bottle to the boy, and he thought he had returned it to the cupboard, while, as a matter of fact, he had not done so or it would not have been found outside. Later on he had made up about two dozen teething powders, and must have taken up the morphia bottle in error. The bottles were exhibited. The one containing morphia, a little two-ounce phial, had its contents "Morph. Chlor." distinctly marked upon it, but the other bottle, much larger, bore no distinguishing label. The witness admitted that the bottles were very different size by size, but that, not being accustomed to finding two bottles, he had taken up the first he came to, and supposed it was the right. The jury returned a verdict of "Death by misadventure" in each case, considering Mr. Cevan deserving of great censure for not exercising greater carelessness, and recommending Dr. Harvey to have his poisons put up in bottles clearly distinguishable from all others.

NUX VOMICA was found by Mr. A. Wynter Blyth in some vomit submitted to him for the detection of the cause of the death of Miss C. E. Perry, aged 18, of Edgware Road. Some rat poison, bought in a bottle, had been placed about the house a short time before, and the jury returned as their verdict that she died from the mortal effects of strychnine poison contained in a bottle of rat poison. It has been since pointed out that the only rat poison sold in bottles in the neighbourhood contains phosphorus, and no trace of the purchase of a strychnine vermin-killer can be found in the neighbourhood.

PHOSPHORUS.—A girl of 13, named Crew, was accused, at Marybone Police Court, with attempting to commit suicide

by swallowing phosphor paste.—Mary Collins, aged 47, of King Street, Clothfair, London, committed suicide by taking phosphor paste. The inquest was held on December 3, and Dr. Smith, who was present in court, remarked that phosphor was a most dangerous poison, and suggested that there should be some check placed upon its sale, as at present a child could buy it at any oilman's shop.

POTASSIUM CYANIDE.—Mary Müller, widow of a photographer, committed suicide at Bethnal Green, on December 2, by swallowing a solution of potassium cyanide.

STRYCHNINE.—Ellen Jackson, widow, aged 34, committed suicide at Birmingham, on November 27, by taking a quantity of strychnine. She had also administered it to her two children, one of whom died at the hospital.—On November 12 Emma Linthwaite made tea, put some Battle's vermin-killer in the pot, and afterwards drank it. She recovered, and was charged at the Nottingham Police Court, on November 23, with attempting to commit suicide.—G. S. Rees, of Nantwich, was found dead, on December 2, with the wrapper of a 6d. packet of vermin-killer near him. Verdict, "Suicide whilst of unsound mind."—T. W. Hinderwell, of Stockton-on-Tees, was found dead, on December 2, under similar circumstances.

YEW-BERRIES.—Mary McCabe, aged six years, died in the last week in November from eating berries from a yew-tree in Glasnevin Cemetery.

THE CHEMICAL SOCIETY.

December 1.

PROFESSOR ROSCOE, president, in the chair.

The following papers were read:—

"Researches on the Laws of Substitution in the Naphthalene Series," Part II., by Dr. Armstrong and Mr. Graham. The product of the action of cold sulphuric acid on β naphthol proves not to be identical with the isomeric sulphonate acid of Rumpf, but to be β naphthyl sulphonate. The same substance may be obtained pure by the action of sulphochloride on β naphthol. By studying the reactions of this body the authors prove that bromine and the sulpho group do not assume the same position in the body when the sulphate is treated with bromine and sulphochloride respectively, and express the opinion that modifications of the OH group appear to lead to important modifications of the laws of substitution. A third and a fourth isomeric naphthalene-disulphonate acid have been obtained.

"On Benzylphenol and its Derivatives," by E. H. Rennie. The author has obtained a monosulphonic acid and its salts in a crystalline condition. He has investigated the action of nitric acid and of bromine on the salts. He believes benzylphenol to be a para derivative.

"On Peppermint Camphor and some of its Derivatives," by R. W. Atkinson and H. Yoshida. The authors have studied the action of bichromate on this camphor. Menthone is produced; from its reactions the authors conclude that the relation between menthol and methone is similar to that between borneol and camphor. They have examined the physical properties of these derivatives, and give the probable constitution of these bodies.

"On the Production of Oxalic Acid from Paraffin Oil," by J. Gallez and J. S. Thomson. The authors have acted on paraffin oil from shale, with nitric acid, and find that oxalic acid is produced.

November 17.

DR. GILBERT, F.R.S., in the chair.

It was announced that a ballot for the election of fellows would take place at the next meeting, December 1.

The following papers were read:—

"Aluminic Alcohols, Part II.: Their Products of Decomposition by Heat," by J. H. Gladstone and A. Tribe. The authors have studied the bodies formed when aluminic ethylate, aluminic phenylate, aluminic paracresylate, aluminic thymobate, aluminium and naphthylate, and aluminium beta-naphthylate are decomposed by heat. The CnH_2n+1 , series yields the corresponding ethers, alcohols, and olefines. The CnH_2n-7 , series yields the corresponding ethers and alcohols, together with some new crystalline bodies, which are probably ketones.

"On the Chemical Action of Decomposing Vegetable Matter on the Rock-forming Sediment of the Carboniferous Period," by E. Wethered. The author points out that the rocks immediately overlying the coal are in nearly all cases argillaceous, and that in the few cases where arenaceous rocks occupy that position, they have a well-marked tendency to become more argillaceous as they come into contact with the coal. He proves, by analyses, that the chief difference in chemical composition between the two rocks is, that the argillaceous rocks contain much more alumina, and concludes that this difference in chemical composition is due to the carbonic acid evolved by the decaying vegetation, decomposing all the silicates but that of alumina.

"On α and β Amylam," by C. O'Sullivan. The author has exhausted various grains, barley, wheat, rye, &c., with alcohol. The residue was then treated for some time with water at 40°, and the process repeated until nothing further was dissolved. The solution was filtered, evaporated, and precipitated with alcohol. The precipitate consisted of α and β amylam. These bodies were very carefully purified; the latter is soluble in cold, the former only in hot water. They have the composition of starch, but furnish apparently at once dextrose, when treated with acid, without the previous formation of dextrin, or any other substance. Their optical and chemical properties are fully given in the paper.

"On the Action of Oxides on Salts, Part IV., Potassic Chlorate, and Ferric Oxide," by E. J. Mills and G. Donald. The authors conclude that the action of ferric oxide on potassic chlorate resembles its action on potassic carbonate to a certain extent, that the chemical change has nothing abnormal or peculiar in its features, and that the name Catalyns ceases to have any reason for its existence.

"On the Steeping of Barley," by E. J. Mills and J. Pettigrew. The authors have compared the effects produced by steeping barley in water, and in water containing gypsum and calcium carbonate. The general effect of a calcium solution is to retain the nitrogenous matter in the grain, but to increase the total amount of extract. They attribute the value of the Burton water to the nitrates which it contains, and the consequent stimulating effects it produces in germination.

Obituary.

PARKER.—On November 25, Mr. F. C. Parker, chemist, formerly of Nethergate, Dundee, and his wife were killed in the railway accident near Tayport station, on the North British Railway.

SELLER.—On October 22, 1881, Mr. William Sherwood Seller, chemist and druggist, Great Driffield, Yorkshire. Aged 69 years.

PRICE.—On November 9, 1881, Mr. William Fare Price, chemist and druggist, Coleshill Street, Birmingham. Aged 72 years.

BUTTERWORTH.—On November 18, 1881, Mr. Frank Butterworth, chemist and druggist, Elsecar, Yorkshire. Aged 41 years.

BATES.—On November 21, 1881, Mr. Thomas Bates, pharmaceutical chemist, Chrissip Street, Poplar. Aged 49 years. Mr. Bates had been a member of the Pharmaceutical Society since 1869.

MARLEY.—On November 23, 1881, Mr. John Marley, chemist and druggist, Lawson Street, Newcastle-on-Tyne. Aged 63 years.

FAILURES AT NEW YORK.—Messrs. Lewis Morris & Co., well-known wholesale druggists, have suspended payment with liabilities amounting to \$110,000. The firm was much respected, and Mr. Morris had been in the drug business in New York for 38 years. The failure is attributed to shrinkage in value of some heavy goods imported by the house, especially indigo, opium, and quinine. They hope to pay 60c. in the dollar. The well-known manufacturers of pharmaceutical chemicals, Charles T. White & Co., of New York, have asked their creditors for time. Their liabilities are \$250,000, but they state that their assets will more than cover the amount, though the latter are not for the moment available. Messrs. Charles T. White & Co. have manufactured quinic since 1871.



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PURE COD-LIVER OIL. *See page 116.*

JUJUBES. *See page 106.*

MAY & BAKER. *See page 2.*

E DITORIAL **N**OTES.

ILLEGITIMATE TRADING AND BRANCH SHOPS.

THE Chemists and Druggists' Trade Association have again scored a victory over provincial magistrates by getting their decision reversed in a superior court. This is satisfactory evidence of the soundness of the Association's legal guidance, and it is also, of course, desirable that an inaccurate interpretation of the Pharmacy Act should be corrected; but the point established does not, so far as we can see, greatly benefit the trade or the public. We do not wish to depreciate the action of the Association in this matter: they could not well avoid following up their action, and getting a clear judgment; but no good results from an overestimate of the position gained.

The litigation arose in this way. The assistant secretary of the Trade Association purchased a pennyworth of red precipitate from the shop of a man named Trafford, at 100 Friar Street, Oxford. The packet bore the label of a Mr. Paterson, a duly-qualified chemist and druggist, living at 9 Cowley Road, in the same city. Mr. Trafford was prosecuted before the Oxford magistrates under the 17th section of the Pharmacy Act, charged with selling a poison not labelled with the name and address of the seller as required by that section. In defence Mr. Trafford alleged

that he was only the servant of the real seller, who was Mr. Paterson; that Mr. Paterson paid him 1s. a week for the use of some part of his shop, and gave him a commission on what he sold. Mr. Paterson confirmed this statement, and we are not much surprised that the magistrates thereupon dismissed the summons. The Association accepted the facts thus stated, but appealed to the Court of Queen's Bench on the point of law whether Mr. Trafford was, in the sense required by the Pharmacy Act, a servant of Mr. Paterson. The Court has ruled that he was not.

It would appear that Mr. Paterson had the idea of establishing a sort of branch of his business in another part of the city on as cheap a scale as he conveniently could do it. If he had hired the whole of the shop, and employed Trafford as his assistant, he might have sold red precipitate without let or hindrance all his days. His error was that he did not go deep enough into crime. At any rate the Trade Association had no intention, we suppose, on this occasion of testing the right of chemists and druggists to own branch shops. Counsel for the Association, before the Court of Queen's Bench, took a liberty which, perhaps, he would not have ventured on if a well-posted opposing counsel had been present. He intimated the possibility, if the decision of the Oxford magistrates were not overturned, of a Brighton chemist taking a shop at Manchester, and there selling poisons by the hands of unqualified persons, and this argument evidently impressed the judges with a sense of the importance of the case before them. But we do not know that the Pharmacy Act ever did prevent the Brighton chemist from thus murdering the population of Manchester, nor do we see that the decision now given will prevent him either. Mr. Justice Grove pointed out a possible difficulty which might arise in respect to the sale of poisons of the first part of the schedule, namely, that the purchaser must be known to the seller, or introduced by a person known to the seller. If the legally-recognised "seller" were a hundred miles away the difficulty of knowing the purchaser might be held to damage the trade in poisons of Part I. of the schedule; but the Brighton chemist's Manchester branch might still deal in red precipitate to any possible extent. Mr. Justicee Groves' discovery strikes at all branch shopkeeping quite as much as against what is more commonly regarded as illegitimate trading. We do not question the accuracy of the judgment, but it does look as if the judges were on a false scent when they imagined they were checking the sale of poisons by unqualified persons. The only question in the case was one which does not fix any procedure for the future. The Oxford magistrates decided that the defendant was a servant of the chemist; the Court of Queen's Bench rule that he was not. Similar cases may or may not be frequent; we have never heard of one; and, except where the circumstances correspond very closely to these peculiar ones, the precedent will be of but little value.

CO-OPERATIVE SHOPKEEPING AND ITS RESULTS.

TRADESMEN would need to be peculiarly endowed with Christian graces if the accumulating troubles of co-operative stores occasioned them any severe anguish of sympathy. The failure of the Tottenham Court Road establishment, the proprietors of which successfully broke through the Pharmacy Act, is not to be rejoiced in revengefully, but only as far as it proves that a system of trade such as was there adopted, unless favoured by exceptional circumstances, such as those which have given the several Civil Service Stores their peculiar prestige, is not a sound one. Whatever may be made of it, the fact remains that co-operative stores,

other than those to which the Government have permitted unfair advantages, have not been, as a rule, successful. This should encourage the trading classes to again make their power felt when another general election comes round. The Civil Service Stores staggered under their blows in 1880, and traders have a right to insist on the strictest justice being maintained between themselves and servants of the Crown. The answer to the agitation has always been that to prohibit a few civil servants from carrying on these concerns could have no effect on co-operative stores generally. That answer ignores the rights of the question altogether, and somehow or other it is not a true argument.

The stores which perhaps excited the bitterest animosity was the one ostensibly started a few years ago by a dozen or so of Queen's chaplains, canons, and clergymen generally, under the title of the "Clergy Co-operative Association." This gave so much offence that the spiritual speculators found it best to withdraw, and the stores ultimately became known as the "Universities Co-operative Association (Limited)." It could hardly have got on worse if the canons had kept to it, and we have already reported that the company is in liquidation. But the Vice-Chancellor gave some hopeful shareholders a chance to hold a meeting, which came off last week, to see if it were possible to resuscitate the concern by an issue of preference shares. The whole of the capital seems to be sunk, the company is in debt to nearly the amount of its present assets, and the Vice-Chancellor fixes 30,000*l.* as the sum which must be raised by preference shares before he will allow it to be re-started. After canvassing the shareholders, both by circular and at the meeting, there seemed a chance of raising about 1,000*l.* in that way, and the Chairman announced that unless the remaining 29,000*l.* came forward in a few days the winding-up must proceed. So it will not be very rash to compose the epitaph for that association. It had close upon 5,000 shareholders; a *clientèle* which, if it had been administered by trained shopkeepers, would have ensured its success. It has proved that an establishment worked by servants and superintended by a party of gentlemen, who think trading means meeting together in a parlour once a week or seldom, is a trap either for shareholders or customers, and sometimes for both.

STEAMY WINDOWS.

STEAMY windows have already begun their annual annoyance of the pharmacist. Yearly the question suggests itself, Can the nuisance be prevented or mitigated? So far as we have seen, no satisfactory cure has ever been suggested. In August, 1879, a patent was applied for, but was afterwards abandoned. The invention consisted in applying to the windows a varnish of methylated spirit containing 5 per cent. of glycerine and some essential oil. Whether it was found in practice that the application did not act as expected we do not know; but at best it could only serve as a poultice to a wound already made.

What is the cause of steamy windows? The hackneyed answer that the cold outside condenses the moisture of the air is undoubtedly correct, but it does not explain how the moisture gets into the air. And as the air in the shop is warmer than that outside, its power of retaining water in a vaporous condition is very much increased. So that the watery vapour in the air of the shop must greatly exceed that of the external air, or no deposit of moisture would take place. It is certain that the greatest deposit of moisture takes place in warm, well-closed shops, and the idea that the warmth has something to do with the deposit is a very natural one. A walk along the streets in a winter evening shows that the amount of moisture on the windows varies

very much in different shops. Some will be almost free from it, others are as opaque as if they were of ground glass. For some time we have been trying to find the reason for this, and although we cannot explain all the anomalies we meet with, yet we think some light can be thrown on the matter.

The best-lighted and warmest shops seem to suffer most. Now, as warmth ought to decrease the deposit, provided the air could take up no more water as it got warmer, we must look for some means by which the proportion of watery vapour in the air is increased with the temperature. This is at once found in the gas, which is almost universally used for lighting and very often for warming. For the amount of light given out gas produces very much more water than either oil or candles. If the ventilation be thorough enough to keep the air of the shop nearly at the same temperature and humidity as that outside, no moisture will be deposited on the window. But if the air is at all confined, as the assistants will certainly wish it to be, then as long as gas is burnt and the products of combustion allowed to escape into the air, so long will the windows be obscured by moisture. As gas is the great offender it is useless to provide air-tight windows, at enormous cost, if they be lighted with gas inside. We know a shop where some hundreds of pounds were spent in air-tight cases for the windows, where this mistake was made.

Another source of moisture is the breath of the assistants and customers, and this seems to be sufficient to make it impossible to avoid all deposit on the windows.

But if petroleum or electricity be used to light the shop, or if the products of the combustion of the gas be carefully removed, then the nuisance will be greatly mitigated. We know a chemist's shop which is lighted by two "Sun" burners on the ceiling. The effect, as regards illumination, is excellent, and this plan makes it very easy to remove the products of combustion.

Of course, if a gas-stove be used to warm the place, and the products of combustion allowed to escape into the shop, neither petroleum nor electricity will prevent steamy windows.

RAILWAY RATES FOR DRUGS.

PART II. of the Railway Rates Committee's report has lately been issued in the form of a bulky Blue-book. On page 213 is printed the Memorial of the Executive Committee of the Chemists and Druggists' Trade Association of Great Britain, addressed to the Chairman of the Committee, and signed by Thomas Barclay, President, and W. F. Haydon, Secretary. The memorial respectfully showeth—

That your memorialists represent upwards of 4,000 pharmaceutical chemists and registered chemists and druggists trading in Great Britain.

That the introduction by the Railway Companies some few years since on the English and Welsh lines of a special scale of charges for the conveyance of consignments of goods not exceeding 500 lbs. in weight imposed a great hardship on all traders who, as is the case with your memorialists, frequently require small consignments of goods conveyed by rail from large centres of trade to the towns in which they carry on their businesses:—

Exempli Gratia.—The drug rate from London to Birmingham is 10s. per ton, and the carriage of a parcel of drugs despatched from London to Birmingham, weighing 2 cwt. 2 lbs., would, if charged at that rate, amount to rather less than 4s. 0½d., but, by the special scale above referred to, the actual amount charged for such a parcel is 4s. 9d. On the 40s. rate, the excess charge imposed by the special scale amounts to 6d. per package above the actual rate, if calculated at 40s. per ton, and in many instances the excess is greater, as the scale progresses by 14 lbs. only,

all consignments over 1 cwt. being charged 1 cwt. 14 lbs., over 2 cwt. as 2 cwt. 14 lbs., &c.

Your memorialists therefore pray that your Committee will bring this matter under the notice of the House of Commons, with a view, if possible, to some alterations favourable to the interests of your memorialists being made in the said scale rate.

It can hardly be considered that any very marked grievance has been made out in the foregoing. It would seem to most persons that if 40s. be a fair price for carrying a ton of drugs from London to Birmingham, there is not much extortion in charging 4s. 9d. for 2½ cwt., though 4s. 0½d. would be the exactly proportionate rate. The cases where railway companies' charges are unfair are those of towns which one railway gets complete control over. As this complaint has been well before the Committee it is possible some more equitable arrangement will be forced on the companies in some of those instances. We may again remind readers that whenever they have goods of 500 lbs. and upwards they can have them carried according to the ton rate, which differs according to the class of goods carried. And at every station the stationmaster is bound to show a list of rates, and the company may also be required to state what they charge for carriage and what for terminal charges for any carriage of such goods. For parcels not exceeding 500 lbs, they can do pretty much as they like.

WINDOW-DRESSING.

A VERY curious case was decided before the High Court of Justice, Queen's Bench Division, on November 18. It might be called novel but that a single case, decided in 1833, was cited as a precedent. The Mayor and Corporation of Manchester prosecuted Messrs. Lewis & Co., general dealers, for a nuisance, the nuisance being caused by the attractiveness of their shop windows, and the obstruction to the traffic caused by the crowds that collected round them. The names of Messrs. Lewis & Co. will be remembered in connection with a prosecution under the 17th section of the Pharmacy Act, with which the Chemists and Druggists' Trade Association was concerned.

The defendants were prepared to supply almost any article that could be required. To attract the attention of passers, coloured lamps, mirrors, portraits of eminences, statesmen, and even bishops in ludicrous attitudes, were displayed in the windows of their fine block of buildings. One of their employés was prosecuted, convicted, and fined at the sessions, but the nuisance was in no degree abated; and after repeated remonstrances the Corporation prosecuted the firm. The case was removed to the Queen's Bench and tried by Mr. Justice Lopes and a special jury, Sir John Holker appearing for the defence. The case for the prosecution was proved by witnesses, but the defendants produced no evidence. They were found guilty of causing a nuisance and came up for sentence on November 18. There were four defendants, all partners, and each was fined 40s. and required to enter into his own recognisances in 500l. not to repeat the offence either by his own or his servants' acts.

THE CHEMISTS' BALL.

THE Committee have resolved to limit the number of tickets to be issued for the ball in January next to 350—a number which they can reckon on disposing of, and for which they will make proper provision. This is a very sensible regulation, as it will enable the 350 to enjoy themselves without the discomforts so often attendant on such assemblies, and if it disappoints some score or two of those applicants for tickets who always put off till a more convenient season what they might do to-day, the lesson will be a useful one.

QUININE IN AMERICA.

IN the course of last month the "Western Wholesale Drug Association" met in Conference at Cincinnati. The delegates present represented to a very large extent the wholesale drug trade of the whole of the United States. For example, of 21 new firms admitted to membership, seven were New York and Philadelphia houses; so that we are led to suppose that the Association has gradually outgrown its title. We recognise in the list of those present many of the names best known in this country as enterprising wholesale druggists. McKesson & Robbins, Wm. R. Warner & Co., Parke, Davis & Co., John Wyeth & Brother are names familiar to British as well as to American drug ears. We are thus particular to indicate what sort of men composed this meeting, because we have to record that they, in Conference assembled, committed themselves to a resolution which, if we did not know them to be hard-headed, enterprising, self-reliant, and keen, would have seemed on the surface to have written them down as fragile, sentimental, and timid men. Among other business, a long communication was submitted to the Association by Mr. A. H. Jones, who is, we believe, the active partner in the firm of Powers & Weightman, and this firm, as is well known, were and are the most important American manufacturers of quinine. It is a matter of notoriety that during the period when quinine was protected by a 20 per cent. Customs duty, the individual partners in the firm of Powers & Weightman realised *millions* of dollars out of this manufacture. It is obvious, even to a European understanding, and must be clear even to brilliance to the more acute American intellect, that those *millions* were made up by contributions from the whole of the United States over and above the commercial value of the quinine purchased. The inference would surely be reasonable that Messrs. Powers & Weightman and their one or two competitors would desire to maintain the duty, and that the other 50,000,000 inhabitants of the United States would wish to abolish it. Now, as far as public utterances go, the only persons whom we find acting reasonably in this matter are Messrs. Powers & Weightman.

Mr. Jones's plea for the re-imposition of duty is an interesting document, and deserves a little study. He first complains that the abolition of the protective duty on quinine was exceptional legislation, directed at one particular industry, and not indicative of any change of national policy. The abolition of the duty was hurried through the Legislature. Manufacturers "embarked in the business upon the implied assurance of the United States Government that no special act would ever be made to destroy them," and now with duties on nearly all the crude materials required, they find themselves weighted where they were once protected in the competition with foreign makers. In Great Britain, France, Germany, and Italy, labour and general expenses are cheaper than in America, and Great Britain especially "fosters the industry which the United States Government has tried to crush by cultivating the cinchona plant at great expense and with sedulous care in the East Indies." Arguments for abolishing the duty on quinine apply to pig iron, silks, cotton, woollens, pottery, and anything else, just as forcibly as they do to quinine. Mr. Jones does not venture on the statement which some of the blinder protectionists of America have not hesitated to make, that the removal of the duty has had no effect in lowering the price, but he gets as near to making that statement as he well can without actually making it. He gives figures to show that the variations in price of quinine correspond closely to variations in price of bark, and says that 40 per

cent. of the supply now comes from abroad; but American manufacturers, handicapped as they are, work without profit, the Government gets no revenue from the quinine imported, the carrying trade in bark has diminished, makers cannot now make contracts with the trade as of old, prices have been less regular, and the consumer has been impereetibly benefited. Therefore he appeals to the wholesale druggists for their co-operation in bringing the subject again before Congress. He appeals to them as large dealers in the article, competent to form a correct opinion, as old friends of the manufacturers, desirous to see them treated fairly, and as American citizens anxious to see their country on as good a footing as any in Europe.

That is a fair summary of the arguments of Messrs. Powers & Weightman, and to a great extent those arguments are just from their point of view. American manufacturers are handicapped, for they can hardly touch a pot or a pan or any one of their crude materials or utensils which is not either taxed or protected, and thus costs more than its commercial value; and, as they say, there is no argument in favour of duty-free quinine which is not applicable to iron, silk, cotton, or cloth. The wonder is that Americans should keep up all this clumsy scaffolding to their commerce, every bit of which has to be balanced so nicely that one manufacturer shall not have more than his fair share of protection, lest the whole structure should come toppling down.

But the wholesale druggists took pity on their "old friends," and passed a resolution urging upon Congress the reimposition of a 10 per cent. Customs duty on quinine. No doubt the sentence in Mr. Jones's paper, "They have not been in a position to make contracts with the trade as of old," suggests the explanation of the resolution of the druggists. In the protection days the manufacturers contracted with the druggists to supply them at a certain maximum figure, guaranteeing to give them any advantage which might occur in the market. In plain language the makers shared some portion of their profits with the dealers. This they intimate they will do again if the latter will help them to a reimposition of protective duty. It is to be hoped that when the matter comes before the Legislature, some representative of the consumer, who is the designed victim of this conspiracy, will be found who will make the transaction clear.

EXTENSION OF COLONIAL TRADE.

A SCHEME has been proposed and submitted to a number of leading manufacturers of Great Britain, to charter a steamer for a year, fit her up with bijou cabins, to be used as separate show-rooms, and take her round the world on a commercial trip. The advantages suggested are that, at a cost of somewhere about 500*l.*, a traveller could convey an extensive variety of samples to the chief ports, where, as a rule, the largest importers are to be found, display them to the best advantage, and without any hotel or other travelling expenses, Customs duties, or hiring of rooms to show his goods, would be able to bring them before possible customers in the most effective manner. The steamer would be, in fact, a large floating exhibition, and it is not likely that there would be much difficulty in getting the right sort of people to come and look at the samples when the ship came into any port. Whether anything more than the scheme will float we cannot say, but the idea seems to be a possible one, and at any rate it is a brighter method of meeting foreign competition than by the clumsy notion of retaliation, reciprocity, fair trade, or by whatever other name it is attempted to revive protection among us. Messrs. Fry & Co., of 17 Fenchurch Street, are the promulgators of the idea.

MALT EXTRACT.

OUR last issue contained two notes on malt extract, both from high authorities, in which a flat contradiction was implied, though not expressed. At page 476 Dr. Milner Fothergill wrote that malt extracts which contain no diastase were valueless as digestive agents. Diastase, according to Dr. Wm. Roberts, F.R.S., is destroyed by a temperature of from 140° to 150° Fahr. Consequently malt extract must be prepared at a temperature lower than 140° Fahr. At page 485 an improved process for its manufacture is reproduced from the report of the Committee on the Revision of the United States Pharmacopœia. Powdered malt is to be macerated in cold water, the infusion digested for an hour at 65° C. (149° Fahr.), raised to the boiling point, strained, and rapidly evaporated in a water-bath or vacuum apparatus.

If Dr. Wm. Roberts is right, no trace of diastase could possibly survive this process; if Dr. Milner Fothergill is right, the extract thus prepared will be about as useful as so much treacle.

The *Pharmaceutische Zeitung* alludes to the letters of MM. von Waldheim and Méhu in our last number, and then refers with a sneer to the remarks which we ventured to make, urging that if any satisfactory outcome of the Congress in the shape of an International Pharmacopœia is to result it will be as well to begin work by burying the hatchet. The *Pharmaceutische Zeitung* finds our expressions very friendly towards the French, and thinks no one will envy the latter the latest blow which fate has dealt them, namely, to be commiserated by THE CHEMIST AND DRUGGIST. That is not bad for sarcasm, and we are glad to furnish an opportunity for the development of German humour, which is not too frequent a characteristic of German pharmaceutical journalism. But our contemporary is exuberant at our expense. "There was no choice for THE CHEMIST AND DRUGGIST," he says, "but to take the French side, in consequence of its established standpoint of opposition to the Pharmaceutical Society and their organ." We have the most modest opinion of the importance of our mission in the world, but for the information of the *Pharmaceutische Zeitung* and of any other persons of similarly erroneous ideas, we take the liberty of saying that that mission does not comprise unreasoning opposition to any society or journal. Such a programme, it seems to us, would be as senseless as its converse of unreasoning support and advocacy of the ever-changing decisions of an official board. Most questions raised in the Pharmaceutical Council have two sides, and the fiercest opposition to any proposal generally occurs among the members of that Council itself. There is no evidence of infallible guidance of the vote, and if at times an outsider happens to drop on the side of the minority, he may be right or he may be wrong, but to charge him with "herkömmlichen Oppositiionsstandpunkte" may be terribly effective, but at bottom is only what the Judicature Act calls "scandalous and irrelevant." Anyway, our able Breslau friends seem to accept as a recognised fact the existence of the Anglo-German League.

The points of difference between the Anglo-Saxon and the Celtic character are numerous enough, and of late they are cropping up in all directions. In England we fawn upon the Government when we want a favour; in Ireland they bully the Government, and it must be admitted that in this matter they succeed better than we do. In England if the trading classes want the patronage of the nobles and the landlords, they treat them, at least, with respect; in Ireland they try to remedy absenteeism by boycotting and shooting those landlords who do come among them. In England we know something of the "omnivorous grocer" and his wiles to draw customers; the Irish grocer appears to be no less omnivorous, but his traps are baited in a curiously different manner. There is something gloomily ominous in the statement which Mr. Howard, of Arklow, wrote to the Irish Pharmaceutical Council, that "poisons are sold [by

grocers] with little or no profit to the seller in order to attract customers for other goods"! His letter is published in our report of the Irish Council's proceedings. The notion is so original that we have called in a poet to celebrate it. He remarks as follows:—

They crowd round the window where in tempting display
Lie packets of poisons in dazzling array,
Where arsenic is sold at co-operative price,
Guaranteed to destroy rats, landlords, or mice.

Pat gazes with rapture and blesses the hand
Which scatters these luxuries over the land,
And he shouts in his joy, "Och, by Jabers," says he,
"That's the shop where I'll purchase my sugar and tea."

A Glasgow professor, on being presented with a very fine specimen of *Radix rheii* by a well-known Conservative chemist, commenced to write his thanks thus:—

"Why should a Rad. come from a fossil Tory?"

But Pegasus shied at this brilliant flask, and refused to proceed till mounted by the chemist aforesaid, with whom he cantered on as follows:—

"Why should a Rad. come from a fossil Tory?"
A learned friend has asked me for reply.

I cannot answer: 'twould be little glory
In owning offspring of so vile a dye.

Yet may a Con. present a *Radix rheii*,
To purge a Liberal of that perilous stuff
Which, left to fester in his Whiggish belly,
Might cause him pain and trouble quite enough."

The professor, who sports the Radical colours, then replied:—

"That Reds. and Tories are all of a lot,
We learn at once from Ben d'Israeli's banter,
The reason why you sent it then is got,
Similia similibus curantur."

As an indication that the "novelty" fever shows symptoms of having nearly run its course a conspicuous placard is displayed in a window at 531 Gallowgate, Glasgow, which reads:—

"NO AMERICAN TRASH SOLD HERE."

M. Paul Bert, the newly-appointed Minister of Public Instruction under M. Gambetta, is one of the most noted scientific physiologist's of France. Lately he received a present of ten crocodiles, five of which were dissected by himself and his assistants at the Sorbonne a few weeks ago. He found the brain very small, and he concludes that crocodiles are "devoid of intelligence, and animated with a violent instinct of destruction." Please observe; five crocodiles were sacrificed to ascertain those important facts. If M. Gambetta had been a vivisectionist and had tested his ministers before appointing them, he might have found a somewhat similar "violent instinct of destruction" in M. Bert's brain. The most interesting result of the dissection was the crocodile supper which followed. The employés of the laboratory found the flesh excellent, with a slightly musky flavour, and somewhat resembling salmon. The most delicate food was found, as in the lobsters, in the tail.

In an American journal we read a letter from Messrs. Young & Postans (London), in which they advocate "a curriculum which shall ultimately bring about and enable us to establish in this country a properly-recognised pharmaceutical university." Far-sight of that kind may be very acute or it may be a little visionary. Anyway, it would perhaps be more to the purpose to get the curriculum before asking Americans to help us to get a pharmaceutical university. May Messrs. Young & Postans, however, live to see the day when that pharmaceutical university shall be at work; when Professor Attfield, Dr. Muter, and Mr. Wills shall share a laboratory between them; and when students shall be supplied with education at the cost of the State! Messrs. Young & Postans conclude their letter by saying that they "know

the power of the Press in ventilating and strengthening the hand of the executive." For ourselves, while we should be reluctant to "ventilate the hand of the executive," we take the liberty of respectfully ventilating in two senses the 25th-century notion which Messrs. Young & Postans have just formed.

The Town Council of the city of Worcester seem disposed to have their pound of flesh from their public analyst. Their contract with Dr. Horace Swete is that for a certain fixed salary he is to perform 40 analyses for them per year, including food, drugs, and water; analyses beyond that number are to be paid for at a fixed rate. Lately the city surveyor brought him four samples of sewage effluents taken from the county of Gloucester. Dr. Swete examined these, reported on them, and sent in a bill for extra fees. He thought sewage effluents did not come within the terms of his contract, and he did not reckon that the county of Gloucester was within the limits of the city of Worcester. But the Council decided that sewage effluents were water, and that Dr. Swete had to analyse what they sent him regardless of where it came from. They therefore refused to pay the extra fees.



AND

Literary Notes.

The Latin Grammar of Pharmacy, for the use of Medical and Pharmaceutical Students. By Joseph Ince, F.C.S., F.L.S., &c. London: Baillière, Tindal & Cox.

THE Latin which the pharmacist has to know is not the most laborious part of his study, but it does appear to present, in proportion to its relative position in the code of examination, more difficulties than almost any other subject. The reason seems to be that the average schoolboy goes through his declensions and his conjugations, and, perhaps, plods a little way into his Virgil, without getting any accurate idea of how the Romans conveyed ideas one to another, or without acquiring any facility in putting his own thoughts into Latin forms. Such a limitation of acquaintance with Latin is quite natural. Not many of those destined to follow the profession of pharmacy are likely to get beyond the necessary mechanical labour of mastering the construction of a dead language—at any rate, in their school days. Dead languages must be learned in that way; and the effect of this mechanical acquirement of the laws governing the Latin language manifests itself in a difficulty which the student appears to have in adapting his rules of grammar to pharmaceutical Latin, or in fitting his pharmaceutical Latin into the rules of grammar.

Mr. Ince's "Latin Grammar of Pharmacy" is likely to afford valuable aid to those who feel their weakness in the direction we have suggested, and all pharmaceutical students will find themselves benefited, in regard to their Latinity, by a study of its pages. It is hardly necessary to say that it is a scholarly production: the name of its author guarantees that character. But we have been much struck with the concise manner in which the grammar is explained—a conciseness which, however, nowhere sacrifices clearness, but which necessitates a careful reading of every sentence.

Of course, examples are frequently chosen from the usual pharmaceutical vocabulary. Thus we have *rosa*, *oculus*, *balneum*, *cocleare*, and other nouns given for declension, while *mittere* and *capere* are among the illustrations chosen of the verbs. Mr. Ince has taken great pains to mark by quantity indications the pronunciation of every Latin word used. This is a matter of great and growing importance.

Following the Latin grammar proper, Mr. Ince gives a section entitled "Suggestions for the reading of Latin prescriptions." Here the rules which have been given are illustrated and applied in actual examples. Numerous genuine prescriptions are given, and their grammatical construction is fully explained. By this means the dis-

penser is at least taught how to get at the exact meaning of the prescriber. To read his writing and to carry out his orders are matters which he must learn from other sources than from a grammar.

"In the translation of prescriptions a certain amount of elegance should be cultivated, but never at the expense of correctness," says Mr. Ince (page 101). The author is so high an authority that we scarcely venture to criticise any of his dicta, but we are a little surprised to find among his illustrations the phrase *bis vel ter die* rendered by the solecism "two or three times a day." "Two times a day" hardly touches that standard of elegance which we should have expected Mr. Ince to set up.

There is no doubt that a book of this kind was wanted, and students are to be congratulated that one so well fitted for the task has undertaken it. Those who are entering on a pharmaceutical career, and those who, already on it, are not quite sure about the security of their case endings, will find this grammar provide for them a convenient and profitable course of study.

Transactions of the International Homoeopathic Convention held in London, July, 1881. London: J. E. Adlard, Bartholomew Close.

THE London homœopaths were not quite the sort of men to let the current year of international congresses go by without having an innings themselves, and though in the public records of last summer they were pretty much overshadowed by their bigger brethren in the international line, they have managed to put themselves in evidence in a bulky manner by a volume recording their transactions. The Convention numbered about 90 Britons, 32 Americans, four Frenchmen, a Russian, and an Italian. Dr. Richard Hughes was president, and a good many medical papers were presented, and are printed in the Transactions. To the general reader the most interesting feature of the Convention was the submission of some half-dozen reports exhibiting the progress of homœopathy and its present position in various countries. Most of these reports were written by inhabitants of the lands reviewed, and all were the productions of homœopaths. All breathe the same spirit of self-sacrificing missionary zeal, intent on proclaiming medical truth amid the persecutions of a reviling world, which so universally characterises homœopathic writings and speeches, and which indifferent outsiders begin to fancy might have served its purpose by this time. Homœopaths have no more right than any other class of innovators to expect that they are going to promulgate their dogmas and upset those of other people without opposition, and they would get a better reputation among thinking people, though, perhaps, they might miss a few of their sympathetic converts, if they could learn to drop their assumption of not very inconvenient martyrdom. Briefly analysing the statements thus put forward, we find that homœopathy claims status in the following countries, as under:—

Belgium: Fifty-one "avowed" homœopathic practitioners, and, of course, as everywhere, a number who practise it without professing it. Also, 20 veterinary practitioners of the homœopathic persuasion. No hospital, but four dispensaries.

Canada: The province of Ontario in 1846 had but one homœopathic physician; in 1880, 46 flourished there. These have won from their opponents, by legislative enactment, a recognised representation on the Medical Council of the province. There are but 13 homœopathic practitioners in the province of Quebec, and seven of these are located in Montreal. New Brunswick counts seven, but the reporter in this case reckons a man and his wife separately. The homœopaths consider themselves pretty strong in New Brunswick, not so much on account of the man and his wife, as because out of six of the Supreme Judges of the province four are themselves fully persuaded. There are six homœopathic practitioners in Nova Scotia. Neither Prince Edward Island nor Newfoundland is blessed as yet, but it is said there are excellent openings for promising young gentlemen in those sections.

France numbers some 300 practitioners practising homœopathically, but they are complained of as apathetic and too jealous of each other to work cordially together.

Germany had failed to furnish a report, but Dr. Dudgeon supplied some particulars which, without giving any statistics, seemed to indicate that the Hahnemannic truth is

dying faster in the land of its birth and in Austria than in any other part of the world.

Dr. Pope reported respecting Great Britain, but confined himself chiefly to vague allusions. No actual figures as regards this country were given. Some statistics from Australia were added, showing that Melbourne numbers some six or seven homeopathic practitioners. Sydney about as many, Adelaide five, Bathurst, Hobart Town, and Brisbane one each, and about six in New Zealand. In South Africa homeopathy has been promulgated by missionaries, and (says Dr. Pope) its value is well known among the half-civilised Boers.

India is reported on by a native practitioner, Dr. Mahendra Lal Sirear, of Calcutta. His own exploits occupy a large proportion of his narrative, but it seems that in Calcutta and its suburbs there are about 12 practitioners and 10 homeopathic pharmaciens. As far as the Doctor knows, there are not another dozen homeopathic practitioners throughout India. He only knows of one in Bombay.

In Italy affairs do not look prosperous, or, at least, progress cannot be reported. From 100 to 200 is the estimated number of homeopathic practitioners. An event which seems to be regarded as worthy of special mention is that a Mr. Omati, of Milan, has had the courage to abandon his "allopathic laboratory," and change it into a homeopathic pharmaey. This is recorded as if he had burned some old wooden idol, and embraced the true truth to his own and the world's lasting benefit.

A candid report is given from Russia, where it appears the faith is decidedly on the decline. The Society of Homoeopathic Physicians at St. Petersburg numbered 218 members in 1875, but is now reduced to 168, and this number includes honorary members, chemists, and veterinary surgeons. There are 12 homeopathic practitioners in St. Petersburg, and about 16,000 prescriptions are made up annually. Moscow numbers five practitioners, and reports 9,000 to 10,000 prescriptions annually. There are five practitioners in Warsaw, and some 60 others in other parts of the Empire.

No statistics are given from Spain, but it appears that a homeopathic hospital has been opened in Madrid within the last few years, where about 100 in-patients are treated quarterly with an average of 6 per cent. of deaths. There are about 800 out-patients per month.

The United States sends a jubilant report. If America had not shown such a marvellous receptivity the progress of homoeopathy there might have counted for something like a proof of its truth. Certainly the progress made is remarkable. The first American convert, Dr. John Gray, of New York, was seceded in 1825. He is still living, and is now one among 6,000 practitioners throughout the Union. There are 26 organised State societies, over 100 local societies, 38 hospitals, 40 dispensaries, 11 medical colleges, and 17 journals, all devoted to the propagation of homoeopathy and the edification of its disciples.

Inorganic Chemistry; Theoretical and Practical. By William Jago, F.C.S., Assoc. Inst. Chem., &c. (London: Longmans, Green & Co. 1881.)

This book is designed primarily for students of science classes connected with the Science and Art Department. The author appears to recognise fully the difficulty of treating his subject in such a manner as will enable the student to acquire sound elementary knowledge of a practical character, and at the same time to obtain good results at the examinations of the Department, where the idiosyncrasies of particular examiners must be considered. This is a task of no small magnitude, and we should be disposed to overlook that part of the task that may be defined as "eram" if the book contained the other more important element of success as an educational work.

The author appears to have treated his subject with great care, and with the constant desire to impart at least sound information, elementary though it may be. The work is essentially experimental, and the various experiments are described in clear and simple language, well calculated to ensure success on the part of the student. The laws of the science are also concisely and lucidly explained. On the whole, we are confident that this book will commend itself to both teacher and student, and we wish it a wide circulation.

Tables of Qualitative Analysis. Arranged by H. G. Madan, M.A., F.C.S., Fellow of Queen's College, Oxford. (London: Henry Frowde. 1881.)

We are not on the whole favourably disposed towards analytical tables, as their tendency is to reduce analytical chemistry to a mechanical art rather than to treat it as a practical application of chemical philosophy. The author takes the precaution of warning the student against falling into this error. There are two distinct sets of tables—one for the examination of single substances, and the other for the examination of mixtures. The tables are somewhat more explanatory than usual, and they have the advantage of being printed on one side of each page; the pages, too, are large, and might very well serve as a model of the form in which the student is to keep his notes. We observe that the author has endeavoured to introduce greater regularity and system than is usual into the tables relating to the examination for acids. As a book of this sort is intended to be used in the laboratory, a more durable cover would be an advantage, and more substantial stitching would be a decided improvement.

PAVESI, PROFESSOR CARLO (OF MORTARA).—*Dell' Aloë Socotrina e specialmente di un nuovo preparato, il tartro-aloeato di sesquiossido di ferro.* Estratto dal Bollettino Farmaceutico di Maggio. Milan: 1881. P. 4.

THIS short paper introduces a new iron preparation under the name of ferrie tartro-aloeate, which is made as follows:—Two parts of Socotrine aloes, one each of tartaric acid and freshly-prepared ferrie hydrate, and half a part of fine iron filings are mixed with enough water to make a soft paste. This is heated for a quarter of an hour to 50° or 60° C., and is then set aside for five or six days, during which small quantities of water are occasionally added, and the mixture stirred. It is afterwards filtered, and the filtrate evaporated by exposing it to a gentle heat in thin layers. Ferrie tartro-aloeate is in small brownish-yellow scales of a pleasant bitter, not chalybeate, taste. It is very soluble in water. It is useful where iron and aloes are ordered together in a soluble form.

PAVESI, CARLO.—*Ossimiele di cloruro di sodio nitrato per uso della conservazione delle sostanze animali alimentari (Carni, pesci). Sirop di ciliegia per uso della renella urica, gatta, idropisia, ecc.* P. 4.

NITRATED OXYMEL OF SODIUM CHLORIDE is a fluid intended for preserving fish, flesh, and the like. Subjoined is its formula:—

									Parts
Sodium chloride	..	..	..	..	..	..	..	..	2
Clarified honey	..	..	..	..	..	..	..	..	12
Potassium nitrate	..	..	..	..	..	..	..	..	½
Pyroligneous acid	..	..	..	..	..	..	..	..	2
Misc secundum artem.									

Meat to be preserved should be immersed in the fluid, when it will remain fresh and tender almost any length of time.

Syrup of cherries is recommended for use in renal diseases, gout, and dropsy. Ripe cherries in good condition are reduced to a fluid paste by rubbing them down with a sufficient quantity of a strong decoction of their peduncles. The mass is strained through a hair sieve and then filtered repeatedly through a linen cloth till the filtrate becomes limpid. Sugar is then dissolved therein at a gentle heat, sufficient being added to produce a syrup, and 25 grains of potassium acetate are added to each kilogramme.

Practical Chemistry. By J. Howard, F.C.S., &c. London and Glasgow: W. Collins, Sons & Co. (Limited). Collins' Elementary Science Series.

THIS is a revised and enlarged edition of a work which appeared some years ago. It is intended for teachers and students who wish to take up the study of practical chemistry as laid down in the syllabus of the Science and Art Department.

In defining molecules and atoms the author states that the former term is used to express the smallest portion of a substance that can exist in a separate state, and that molecules are supposed to consist of "groups of atoms which are indivisible, and which cannot exist in a separate state." This definition is misleading, since it assumes that a

molecule must always contain more than one atom, an assumption that is inconsistent with the facts known respecting certain of the elements. On page 62 the author, indeed, refers briefly to the existence of certain monatomic molecules, and instances mercury, zinc, and cadmium; and in a foot-note further on he explains that Zn may be used in a chemical equation, as in this case the symbol correctly represents a molecule. The contradiction that is involved between these passages and the first paragraph in chapter i. is certain to prove a source of embarrassment to the student. The notion of atoms and molecules is fundamental in chemical science, and the definition of such an important conception, however brief it may be, should be exact. In a foot-note on page 16 the author says, "Phosphorus is highly inflammable, burning at all temperatures above the freezing-point." It is to be hoped that the student will not suppose that the temperature of burning phosphorus is so low that he may handle it with impunity. Substituting for the word "burning," "igniting," the statement would be nearer to the truth, but still fallacious. A woodcut on page 27 showing the sizes of glass tube recommended is very unfortunate: such thin tube is altogether unsuited for general purposes. Referring to potassium the author says, "Take a bit the size of a pea, throw it into a basin or little glass dish containing water; it will ignite, burning with a characteristic violet flame." The mistake is repeated in referring to sodium on the next page. Chemical examiners frequently ask junior students as a "catch" question what happens when potassium is thrown on water. If the student has made the experiment and understands it, he is supposed to be aware that the flame is due to the ignition of the liberated hydrogen, and that it is not the metal that burns. The author's explanation of the phenomenon would very probably decide the fate of the junior student. It is useless to examine the book any further. We recommend the author to take the earliest opportunity to revise the work.

GOOD THINGS is the title of a neat little volume of 100 pages which Messrs. Goodall, Backhouse & Co., of Leeds, will send to any applicant in return for a penny stamp. "Good Things" contains recipes for a large number of dishes and culinary luxuries; good suggestions for housekeepers, and much information skilfully prepared with the several intentions of making homes happier, food wholer, and Goodall, Backhouse & Co.'s specialities even more famous than they are at present.

THE Tropical Agriculturist is a new venture by the enterprising proprietors of the *Ceylon Observer*. This journal has long been distinguished among Colonial newspapers by the attention given in it to the development of the natural resources of the country. Hardly an issue appears without some fresh information or discussion useful to planters, and the experience gathered in Bengal and Java, China and Jamaica, and all other parts of the world is systematically laid under contribution. The *Tropical Agriculturist* will be a monthly record of information for planters of tea, coffee, cocoa, cinchona, cinnamon, sugar, palms, and other products suitable for cultivation in the tropics. The first number contains 72 pages, and is very interesting to pharmacists. The editors promise a thoroughly complete and systematic index to each volume. The price is eight rupees a year.

BOOKS RECEIVED.

Vitali, Dr. Dioscoride.—*Il Progresso nelle scienze induttive; discorso letto all' Università di Pavia, 13 Giugno, 1880*: Milano. P. 29.

Ronconi, Dr. Gio. Battista.—*Studio tossicologico sull' atropina e sulla daturina*: Milano: 1880. P. 31.

— Sul timolo o acido timico. P. 23.

Felice, Dr. Bignone.—*Studio tossicologico sull' avvelenamento per fiammiferi. Lettura fatta alla Società Medica della Liguria*: Milano: 1880. P. 10.

Ronconi, Dr. Gio. Battista.—*Del Servizio farmaceutico delle regie cliniche, istituzione della scuola di farmacia teorico-pratica*: Milano: 1881. P. 14.

All reprinted from the *Bulletin Farmaceutico* of Milan.



MESSRS. J. S. FRY AND SONS' COCOAS AND CHOCOLATES.

MESSRS. J. S. FRY & SONS have introduced their cocoa extract in 1-lb. canister-shaped tins of decorated character. These tins are very convenient for opening and closing, and form besides an ornamental addition to the table. They will no doubt tend to make Messrs. Fry's excellent preparations more popular than ever. Malted chocolate and malted cocoa extract, made with Messrs. Allen & Hanburys' extract of malt, are also specialties of this firm, well adapted for chemists. Messrs. Fry's delicious chocolate nougats and chocolate creams, in elegantly-decorated boxes, are a combination of artistic skill which admirably fits them for Christmas presents.

MESSRS. CADBURY BROTHERS' COCOAS AND CHOCOLATES.

AMONG the more recent preparations which Messrs. Cadbury Brothers have added to their ever-increasing list we notice charcoal chocolate creams. In these the charcoal is mixed with the cream, and the whole is perfectly covered with chocolate. There could be no more elegant way of administering charcoal, and the flavour of the chocolate cream is of course in no degree interfered with. Another novelty is Cadbury's Pure Solidified Cocoa Nibs. In this we have the cocoa nibs with nothing removed and nothing added, but formed into convenient bars so that each one is sufficient for a breakfast-cupful after boiling. This we presume is produced to satisfy those people who still cling to the cocoa nibs of their earlier days and want the cocoa, the whole cocoa, and nothing but the cocoa. More wholesome, and to our taste more agreeable, is a cup made from Cadbury's celebrated cocoa essence, an operation, too, involving far less trouble. Messrs. Cadbury's new designs on boxes of chocolate creams are, as usual, most artistic. The children's faces are admirable, and we notice that they have introduced some designs especially adapted to the season.

RIMMEL'S CHRISTMAS NOVELTIES.

BESIDES his almanacs for 1882, which we noticed last month, Mr. Rimmel has an almost endless stock of sachets, cards, and other fancy goods for Christmas. Some of his new designs are certainly among the most beautiful of those with which the shop windows of the metropolis are now alive; and he shows among the cheaper ones illuminated cards of French design, with sketches on them both artistic and amusing. Besides cards he has many new forms of crackers as well as favourite old ones. Among the new ones the popular-tale crackers, illustrating the histories of Cinderella, Puss in Boots, and many other old acquaintances are sure to be popular.

FRUIT CHAMPAGNES.

WE allude again to these new beverages made by Messrs. Barnett & Foster, the idea of which we explained in our last, in order to remark on their excellent adaptability as Christmas presents. Since last month we have had an opportunity of seeing a dozen cases, packed in regular champagne style, the bottles with straw envelopes, and the

case branded in the usual manner. Those makers who take up with the scheme proposed by Messrs. Barnett & Foster, and who enter on the manufacture of these fruit champagnes, ought to make a good harvest every Christmas season.

Trade Notes.

LARGE buyers of insect flowers and of other crude drugs will find the advertisement of an Austrian producer in this number.

GROCERS in various towns are announcing that Christmas boxes will not be given this year, as the competition of the Co-operative Stores has so largely reduced profits.

THE AYLESBURY DAIRY COMPANY state that they are now sending out about 2,000 bottles of Koumis weekly, the delivery extending all over the United Kingdom and to the Continent.

MESSRS. HILLS BROTHERS & CO., Birmingham, have purchased the plant and goodwill of the business of Messrs. Reade Brothers, Tower Varnish Works, Nechells, Birmingham.

MESSRS. SEABURY & JOHNSON, of New York, and Australia Avenue, London, announce a reduction in the price of their indiarubber porous strengthening plasters to 30s. per gross. They publish their full price-list among our advertisements.

IN the four weeks ending November 26, 1881, there were 8 failures of chemists and druggists gazetted in England and Wales. In the corresponding period of 1880 there were 12, and in that of 1879 there were 10. The total failures in the same periods were—1881, 948 ; 1880, 1,068 ; 1879, 1,218.

MESSRS. C. LORYMER & CO., wholesale perfumers, human hair merchants, &c., 25 Percy Street, Rathbone Place, W., have purchased the stock and plant of Messrs. G. Salter & CO., and have secured the services of Mr. Frank S. Stark, as traveller.

MR. G. H. SKINNER, of the St. Kerian Works, Exeter, is pushing his Phosphodone vigorously in London and elsewhere. It is an exceptionally pleasant beverage, having a slight aromatic flavour, distinguishing it from other preparations of the class.

MESSRS. J. F. EDISBURY & CO., of Wrexham, have purchased the whole of the premises, stock-in-trade, machinery, &c., which have for some years been known as Wallis' Rhosddu Aerated-water Works. Messrs. Edisbury & CO. will, we understand, absorb the newly-purchased business in their large works in the Beast Market.

WE have received a 24 page pamphlet from Messrs. Kilner Brothers, of King's Cross, London, filled with illustrations of the various kinds of bottles manufactured by them. This list will be found very useful to chemists, who often want a kind of bottle not at hand. Messrs. Kilner issue a price-list separately.

CHRISTMAS HOLIDAYS.—Messrs. S. Maw, Son & Thompson advertise their intention to close their establishment for holidays on Saturday, the 24th, and Monday, the 26th. We understand that a great many London wholesale houses will follow that example. We may here give notice that the office of this Journal will be closed on those days. It appears that Monday and Tuesday, December 26 and 27, will be more generally chosen as closing days in the country.

MESSRS. RAIMES & CO., wholesale druggists' sundries-men and patent-medicine dealers, now of Edinburgh, York, and Liverpool, announce that they will relinquish their Liverpool business after the 31st of this month.

ETTLI'S SWISS MILK INFANTS' FOOD appears to be a scientifically-compounded preparation in which wheat flour is brought to a condition of most ready digestibility, and is then combined with Swiss cows' milk. The whole is cooked, dried, and produced as a powder, which is sold in tins. The wholesale agents for this country are Messrs. Lehmann & CO., of 103 Fenchurch Street. The same firm are agents for a new food called "Zea." This, as its name indicates, is a maize flour, but it is claimed that by a special process it has been brought to a high degree of digestibility. It is recommended for soups, puddings, and pastries.

MESSRS. TOMLINSON & HAYWARD, of Lincoln, have taken in hand an omnipotent liver cure, called "Hepaticus," made from a recipe which has been used by Mr. Samuel Pilley, of Sudbrooke, Lincolnshire, for 60 years, and by his ancestors for the remainder of the century. The initials of Mr. Samuel Pilley explain the enigmatic letters at the corners of the trade-mark. The manufacturers are able to produce some striking testimonials, which are sure to produce a great effect on the minds of a large proportion of the dyspeptics who will read them. The remedy is put up in neat counter-cases containing a dozen bottles; the only size put up sells at 2s. 9d.

PRODUCTION OF QUININE.—*El Laboratorio* (a Barcelona journal) gives the following figures as the annual product of the various quinine-makers in the world, but does not state the source from which they are obtained:—

							Kilos,
North America..	..	..	..	..	..	..	20,000
Howard, London	..	..	..	..	..	..	10,000
Whiffen,	..	..	..	..	..	..	3,500
Jobst, Stuttgart	..	..	..	..	..	..	9,000
Böhringer & Sons, Mannheim	..	..	..	..	..	..	9,000
Brunswick Chininfabrik	..	..	..	..	..	..	6,000
Zimmer, Frankfort	..	..	..	..	..	..	6,000
F. Koch, Oppenheim	..	..	..	..	..	..	1,500
Pelletier, France	..	..	..	..	..	..	4,000
Tailaudier, France	..	..	..	..	..	..	3,000
Schiessmann,	..	..	..	..	..	..	1,00
Dufour Fratelli, Genoa	..	..	..	..	..	..	3,000
The Lombard Factory, Milan	..	..	..	..	..	..	40,000

The Lombard Factory is a limited company, with a capital of 4,000,000f., in shares of 500f. It is under the direction of Mr. Alexander Böhringer. The factory stands on a space of 8,300 square metres, and the whole superficial floor-space is 130,000 square metres.

THE EXPLOSIVES COMPANY.—Objects: To acquire and take over from the Stowmarket Explosives Company (Limited) their entire undertaking and property, and to carry on the business of manufacturers of explosives, whether nitro-glycerine, dynamite, gun-cotton, detonators, cartridges, fuses, or blasting-powder. Capital 150,000*l.*, in 5*l.* shares.

Personalities.

MR. G. S. V. WILLS was elected Fellow of the Linnean Society on December 1.

MR. GEORGE MERRACK TREVASKIS has succeeded to the business conducted by Mr. F. R. Hawkins for the past 21 years at 50 Union Street, Plymouth.

MESSRS. B. G. LENNON & CO., of Port Elizabeth, have removed their London office from Holborn Viaduct to 11 Edmund Place, Aldersgate Street.

MR. THOMAS WILLIAMS, who has been manager for Messrs. Grindley & Son, of Chester, for the last 15 years, has been taken into partnership.

THE business of Mr. Brown, Kibworth, has been purchased by Mr. R. Esam, late of Gloucester Infirmary. The business was sold and transfer completed by Mr. Brett, of Leicester.

HEAVY DAMAGES FOR RAILWAY INJURY.—In the Queen's Bench Division on November 24, before the Lord Chief Justice and a special jury, damages of £980 were awarded to Mr. Cassie, chemist, for injuries sustained in a collision on the London and South-Western Railway at Vauxhall, at the latter end of last year.

MR. ALFRED PRESTON, of the firm of Hodgkinson, Prestons & King, wholesale druggists, Leadenhall Street, is the Worshipful Master of the Carpenters' Company, and at a livery dinner on November 24 entertained the Lord Mayor, the Right Honourable Joseph Chamberlain, Mr. John Holms, M.P., Sir J. C. Lawrence, M.P., and several other distinguished guests. In responding to the toast of his health, the President of the Board of Trade said: "To have shared your hospitality at all is a privilege, but my gratification has been enhanced by the fact that I am here as the guest of my old friend and near relative, your Master, who is, I think, the third of his name who has occupied the chair."



[The following list has been compiled expressly for THE CHEMIST AND DRUGGIST by G. F. Redfern, Patent Agent, 4 South Street, Finsbury, London, and at Paris and Brussels.]

Applications for Letters Patent:—

- Acetic Acid, &c.**—No. 4897.—W. R. Lake.—A communication from P. St. A. Basquin, of Paris. An improved process and apparatus for ageing padded, dyed, or printed textile or fibrous materials, and obtaining therefrom acetic acid and other volatile products. Dated November 8, 1881.
- Aerated Waters.**—No. 5046.—A. P. Price, of Lincoln's Inn Fields, London. Improvements in the production of aerated waters. Dated November 17, 1881.
- Antiseptic Drinking Fluids.**—No. 4768.—J. Ascongh, of Handsworth, Staffordshire. Improvements in the manufacture of antiseptic drinking fluids. Dated November 1, 1881.
- Beverages.**—No. 4766.—T. Maughan, of Southampton Buildings, London. Improvements in the manufacture of aerated and other beverages for medicinal purposes, or for refreshment, and of materials to be used in such beverages or for other purposes. Dated November 1, 1881.
- Bi-carbonate of Soda.**—No. 5024.—E. Carey, H. Gaskell, jun., and F. Hurter, all of Widnes, Lancashire. Improvements in the manufacture of bi-carbonate of soda. Dated November 16, 1881.
- Bottles.**—No. 5090.—E. Edwards.—A communication from A. M. Hurel, of Theillement, France. Improvements in bottles or vessels for holding and transporting milk or other liquids, and in the method of closing and securing such bottles or vessels. Dated November 21, 1881.
- Bottles, &c.**—No. 5184.—J. Pattison, of Newton Terrace, Kennington, London. Improvements in the manufacture of bottles, and of stoppers therefor. Dated November 21, 1881.
- Bottling Aerated Waters.**—No. 5035.—J. T. Hayes, of Sbernhall Street, Walthamstow, Essex. Improvements in apparatus for bottling aerated waters. Dated November 17, 1881.
- Chromate of Soda.**—No. 5262.—C. D. Abel.—A communication from F. C. Glaser, of Berlin. An improved manufacture of chromate of soda, and apparatus therefor. Dated December 1, 1881.
- Chromate of Soda, &c.**—No. 5264.—C. D. Abel.—A communication from F. C. Glaser, of Berlin. Improvements in the manufacture of chromate of soda and chromic acid. Dated December 1, 1881.
- Colouring Matters.**—No. 5249.—O. N. Witt, of Mulhouse, Alsace, and H. Köchlin, of Lorrach, Baden. Improvements in the manufacture of the colouring matters known as indophenols, and a method of rendering them soluble in water. Dated November 30, 1881.
- Colouring Matters.**—No. 4899.—J. Imray.—A communication from H. Köchlin, of Lorrach, Germany. Improvements in the manufacture of colouring matters. Dated November 9, 1881.
- Cooling and Refrigerating Apparatus.**—No. 5015.—J. F. Littleton, of Battersea, London. Improvements in cooling and refrigerating apparatus. Dated November 16, 1881.
- Disinfecting Sewage, &c.**—No. 5199.—A. M. Clark.—A communication from P. Schlosser, of Paris. An improved composition for disinfecting sewage and other refuse matters. Dated November 28, 1881.
- Disinfecting Water-closets, &c.**—No. 5039.—T. Beddoe, of New Church Street, Bermondsey, London. Improvements in disinfecting water-closets, urinals, &c. Dated November 17, 1881.
- Evaporating Alkaline Lyes, &c.**—No. 4794.—W. Malcolm, of Lasswade, Midlothian, North Britain. Improvements in furnaces and apparatus connected therewith for evaporating and incinerating alkaline lyes, and for reclaiming the soda or other alkalies therefrom. Dated November 2, 1881.
- Filter-presses.**—No. 4890.—A. G. Salamon, of Clapham Park, London. Improvements in the construction of filter-presses, especially applicable to the filtration of "brewers' waste" and yeast. Dated November 8, 1881.
- Galvanic Batteries.**—No. 4866.—T. Coad, of 4 South Street, Finsbury, London. Improvements in voltaic or galvanic batteries. Dated November 7, 1881.
- Galvanic Batteries.**—No. 4867.—T. Coad, of 4 South Street, Finsbury, London. A new or improved cabinet for voltaic or galvanic batteries. Dated November 7, 1881.
- Galvanic Batteries, &c.**—No. 5159.—R. E. B. Crompton, of Queen Victoria Street, and D. G. Fitz-Gerald, of Ackerman Road, Brixton, both in London. Improvements in galvanic batteries and electro-chemical accumulators. Dated November 25, 1881.
- Grinding Caustic Soda, &c.**—No. 4273.—R. H. Davis, of Liverpool. Improvements in and relating to the grinding of caustic soda and other very deliquescent substances. Dated October 3, 1881.
- Packing-cases for Bottles, &c.**—No. 4952.—G. Robson, of Liverpool. Improvements in packing cases for bottles and like articles. Dated November 12, 1881.
- Purifying Water.**—No. 5183.—P. Spence, of Manchester. Improvements in the purification of water for domestic, manufacturing, and other purposes. Dated November 28, 1881.
- Separating Glycerine, &c.**—No. 4936.—W. R. Lake.—A communication from M. C. A. Ruffin, of Paris. An improved process for separating or extracting glycerine, oleine, fatty matters, or other products from various substances containing the same. Dated November 10, 1881.
- Stopping Bottles, &c.**—No. 5154.—H. Barrett, of Daere Street, Westminster, London. Improvements in the manufacture of stoppers for bottles, jars, and like vessels. Dated November 25, 1881.
- Stopping Bottles, &c.**—No. 528.—H. Mardon, of Bristol. Improved means of closing or stopping jars, bottles, or other receptacles. Dated November 29, 1881.
- Substitute for Coffee, &c.**—No. 4915.—E. Edwards.—A communication from F. Maire, of Lyons, France. An improved preparation of farinaceous food to be used as a substitute for coffee, chocolate, or coco. Dated November 9, 1881.
- Sulphuric Acid.**—No. 4888.—T. Richters, of Brezel, Germany. Improvements in the manufacture of sulphuric acid. Dated November 8, 1881.
- Suppositories.**—No. 5021.—B. J. B. Mills.—A communication from E. H. Gibbs, of New York, United States. Improvements in suppositories. Dated November 16, 1881.
- Syruping Ginger-beer, &c.**—No. 4969.—J. Murrell, of Ipswich, Suffolk. An improved machine for syruping ginger beer and other beverages. Dated November 12, 1881.
- Teeth-brushes.**—No. 4985.—E. Pierrepont, of Conduit Street, Regent Street, London. Improvements in teeth-brushes. Dated November 14, 1881.
- Testing Purity of the Breath.**—No. 4881.—A. C. Henderson.—A communication from A. F. L. Flagne, of France. Improvements in apparatus for testing the purity of the breath. Dated November 8, 1881.
- Treating Faecal Matters, &c.**—No. 5266.—A. M. Clark.—A communication from P. Schlosser, of Paris. Improvements in apparatus for receiving, disinfecting, and separating faecal and other matters. Dated December 1, 1881.
- Treating Faecal Matters, &c.**—No. 5168.—A. M. Clark.—A communication from P. Schlosser, of Paris. An improved method of treating faecal and other matters. Dated December 1, 1881.
- Vaccinating Apparatus.**—No. 4790.—T. Smith.—A communication from Dr. V. Bug, of Paris. Improvements in vaccinating apparatus. Dated November 2, 1881.

Specifications published during the month:—

Postage 1d each extra.

1464. H. A. Bonneville. Apparatus for preserving animal and vegetable substances and liquids. (Not proceeded with.) 6d.
1487. E. G. P. Thomas. Manufacture of colouring matters. 4d.
1490. W. R. Lake. Manufacture of fibrous material from a vegetable production. 4d.
1511. J. Heaps. Receptacles or racks for bottles. 6d.
1527. J. Imray. Effecting concentration and crystallisation of soda solutions, &c. 6d.

1568. G. W. Kincaid. Manufacture for production from malt of a beverage resembling coffee. 2d.
 1574. E. Harris. Medical compound for burns, &c. 2d.
 1587. W. Young. Manufacture of mineral oil and ammonia. 1s.
 1605. A. M. Clark. Extracting the oxides and carbonates of zinc and copper from ores. 4d.
 1637. T. Holliday. Obtaining colouring matters for colouring cotton, &c. 2d.
 1638. T. Holliday. Producing azo colours on cotton, &c. 2d.
 1639. J. Deucker. Production of nitrobenzole. (Not proceeded with.) 2d.
 1640. H. J. Haddan. Apparatus for the manufacture of bottles. (Not proceeded with.) 2d.
 1675. A. W. Elliot. Treatment of maize for beverages. 4d.
 1702. C. G. Elers and T. Rowan. Stoppers for bottles, &c. (Not proceeded with) 2d.
 1701. G. Atkinson. Refining camphor. 6d.
 1720. A. M. Clark. Treating dolomites and magnesian limestones. 4d.
 1721. A. M. Clark. Manufacture of carbonates of soda and potash. (Not proceeded with) 2d.
 1725. J. Young, jun. Preparation of colouring agents. 2d.
 1728. A. M. Clark. Apparatus for the manufacture of bases for artificial teeth. 1s.
 1729. L. Gres. Capsules for bottles, jars, &c. (Not proceeded with.) 2d.
 1731. A. A. Ceoll. Manufacture of sulphate of alumina. (Not proceeded with) 4d.
 1760. L. A. Groth. Paste for dressing wounds. (Not proceeded with) 2d.
 1767. F. A. Zimmermann. Manufacture of dyes. 6d.
 1768. H. Weickind. Production of magnesia and sulphate of calcium. (Not proceeded with) 2d.
 1786. F. Wirth. Production of solid fat acids from oils or oleic acid, &c. 4d.
 1794. H. A. Bonneville. Bottle stoppers. (Not proceeded with) 4d.
 1811. W. R. Lake. Treating vegetable textile materials to facilitate the dyeing of the same. 4d.
 1820. S. Pitt. Preparation of magnesia for separation of ammonia from excrementitious matter, &c. 4d.
 1825. G. W. Clayton. Apparatus for padding colours on to calicoes, &c. 6d.
 1838. E. J. T. Digby. Horse and cattle food. 2d.
 1842. E. B. Hart. Extracting, by volatile solvents, soluble matter from substances, &c. 6d.
 1849. A. Gougb. Treatment of coffee, &c. 2d.
 1850. J. K. J. Foster. Apparatus for impregnating water with carbonic acid gas. 6d.
 1861. G. W. von Nawrocki. Manufacture of thickening and adhesive materials or "dress" compositions. 4d.
 1893. C. D. Abel. Absorbing and rendering available for manufacturers, the sulphuric and sulphurous acid contained in furnace gases, &c. 4d.
 1931. H. J. Haddan. Treating textile fabrics for sanitary purposes. 2d.
 2017. E. Solvay. Manufacture of soda. 2d.



BANKRUPTS.

EVANS, WILLIAM DENNETT, & CANT, HEMINGTON (November 10). aniline-dye manufacturers and patentees, Eastern Chemical Works, Marsh Gate Lane, Stratford, Nov. 22, 12s. From liquidation to bankruptcy upon the application of Henry Garrod, of Arthur Street West, E.C. Bankruptcy Comit, London. Recg.—Brougham.

PARTNERSHIPS DISSOLVED.

MATHER & CRESSWELL, pearl and sugar coated pill and medicated lozenge manufacturers, Felton Street, Hoxton. October 17. (Henry Peter Cresswell and Edmund Charles Mather.)

PEARCE, ALLEN, & CO., owners of various proprietary articles and druggists' sundrymen, Bath Street, Bristol. August 20. (William Allen Pearce and Josiah Curry.) Debts by Curry.

REID, ALEXANDER, & SONS, manufacturing chemists, Irwell Chemical Works, Radcliffe. (Alexander Reid, Alexander Reid, jun., Thomas Reid, and Arthur Reid). As regards Arthur Reid. November 10. Debts by remaining partners.

SYMINGTON, THOMAS, & CO., manufacturing chemists, Beaver Bank, Edinburgh. November 1. (Thomas Symington and A. B. Foulis.) Debts by Symington.

LIQUIDATIONS.

- BROWN, SAMUEL, Coningsby, chemist and druggist. December 7.
 GRAHAM, WILLIAM RICHARD, now 27 Windsor Road, Stockton, late chemist and druggist (under style of "W. R. Graham & Co."), and auctioneer and banker (under style of "The Yorkshire and Cleveland Bank"). November 18.
 GROUND, WILLIAM DAVIE, JUN., Gainsborough and Whittlesey, dispenser and chemist. November 30.
 HEAP, BENJAMIN, Alexander Terrace, Mersey Road, Ashton-on-Mersey, analytical chemist. November 17.
 JAY, ALFRED HENRY, known as Alfred Joseph, 46 Fitzroy Street, Euston Road, trading as "Jay Ferc et Fils," wholesale perfumer. December 7.
 PAYNE, WILLIAM HENRY, 261 High Street, Cheltenham, chemist. November 24.
 SPEAKMAN, ISAAC, 27 Bridge Street, Runcorn, chemist and druggist. November 15.
 STOCKINGS, ALFRED, Golden Ball Street, Norwich, chemist. November 23.
 TODD, LEVI, 119 Fishergate, Preston, chemist. November 22.
 TWEMLOW, FRANCIS ERNEST CRICHTON, Queen's Arms, 12 Queen Street, Soho, victualler, formerly chemist. November 5.

Foreign and Colonial.

NATIVE QUICKSILVER has been discovered at Somerset East, Cape Colony, but whether in sufficient quantities to be worth working remains to be seen.

A UNIVERSAL PHARMACOPEIA.—The Société de Pharmacie de Paris has resolved to print and publish the projected Universal Pharmacopoeia, which had been elaborated by a special Commission at the request of the International Pharmaceutical Congress of St. Petersburg.

INTERNATIONAL EXHIBITION IN NEW ZEALAND.—An International Exhibition will be opened at Christchurch on March 18 next, and a special section is to be devoted to the exhibits from Great Britain. Gold, silver, and bronze medals will be awarded. Particulars respecting the exhibition can be obtained at the International Exhibition Offices (Messrs. J. M. Johnson & Sons, Limited), 1 Castle Street, Holborn.

A PATENT MEDICINE MAN KILLED BY HIS OWN MEDICINES.—The *Oil, Paint, and Drug Reporter* states that James W. Teale, of Brooklyn, agent for James' Fever and Ague Cure, died rather suddenly last month, a victim to overdoses of arsenic, contained in the preparation for which he was the agent. This is a remarkable case from the fact that it records the only known instance of a patent medicine man's having the temerity to take his own compound.

HOLLOWAY'S MEDICINES IN AMERICA.—On October 8 Thos. Holloway, proprietor of Holloway's Pills and Ointment, obtained an injunction against Joseph Haydock, of New York, restraining him from manufacturing or selling the above articles, and especially from using Holloway's name. The injunction was violated by Haydock, and Holloway procured his prosecution for contempt of court. Under this prosecution Haydock was arrested and committed to gaol on the 3rd of November.

MINERAL WATERS IN QUEENSLAND.—One often hears of the wonderful resources of Queensland, but the reference is generally to sheep, cattle, or minerals. It now appears that this youngest of the Australian Colonies possesses mineral waters of the highest qualities, which are likely to take the place of the locally made and imported artificial medicinal waters. Mr. Gilbert Primrose is the fortunate owner of the Helidon Spa at a distance of 70 miles from Brisbane. The following analysis of the water is by the well-known Melbourne chemist, Mr. J. Cosmo Newbery:—"The water is very clear, containing only a few small particles of sediment. It contains free carbonic acid, which causes a slight effervescence. Upon analysis it gave an amount of solid residual equal to 278·36 grains per imperial gallon, which consisted of:—Carbonate of sodium, 227·47 grains; carbonate of calcium, 14·40 grains; magnesium, trace; chloride of sodium, 21·72; sulphate of sodium, 14·97; sulphate of potassium, 0·81; sulphate of calcium, trace; organic and silicious matter, trace; total, 279·36 grains. This water is similar in its saline contents to the celebrated Carlsbad water."

Exchange Column.

ADVERTISERS IN THE EXCHANGE COLUMN will find it very much to their advantage to draw up their announcements so that they will fall naturally into one of the divisions into which the advertisements are grouped.

We would also suggest that those who avail themselves of the Disposal section will be wise to define, with some approach to detail, what they have to sell. Probable purchasers are too busy, in most cases, to enter into preliminary correspondence, which is likely enough to have no ultimate result.

TERMS.—Announcements are inserted in this column at the rate of one halfpenny per word, on condition that name and address are added. Name and address to be paid for. Price in figures counts as one word.

If name and address are not included, one penny per word must be paid. A number will then be attached to the advertisement by the Publisher of THE CHEMIST AND DRUGGIST, and all correspondence relating to it must be addressed to the "Publisher of THE CHEMIST AND DRUGGIST, Colonial Buildings, Cannon Street, London, E.C." the envelope to be endorsed also with the number. The Publisher will transmit the correspondence to the advertiser, and with that his share in the transaction will cease.

Deposit of Money.—In order to ensure safety we offer the following system:—The purchaser of anything advertised in the Exchange Column may remit the amount to us. We shall acknowledge receipt to both parties by post-cards, and shall only pay it away on the advice of the remitter. Whether returned to him or paid to the seller, we shall charge a commission of 2½ per cent. on any money thus passing through our hands, and not less than 6d. on any single transaction.

Dental and Surgical.

Crutches, pair Maw's fig. 14, 48 inches, good condition; what offers? Smart, Steyning. Hot-water bed, indiarubber, full size, complete, good as new, cost 11*s.* 9*d.* 12*s.* Dental show-case for corner, Treble's, good condition, 18 in. high, 3*s.* 1*d.* deep, 10 in. angle; two vulcanite, two gold, two carved ivory pieces, price 5*s.* C. Weston, Ventnor, I.W. Dental lathe, corundum wheels, chucks and burrs, 3*s.*; various tools and instruments cheap; Tomc's "Dental Surgery," 6*s.* 6*d.* Nosworthy, Chemist, Melksham, Wilts.

Drugs and Chemicals.

About 2 lbs. ol. lavand., Mitcham opt., 1875; what offers? 9*s.* 2*d.* What offers? Drugs, chemicals, and sundries. 9*s.* 6*d.* Half cwt. verdigris, been powdered; part cask pearlash; cheap; sample sent. 9*s.* 2*d.* What offers for a few cwt. of rass. guaiaci? John Saeel, Chemist, Keighley. 5*s.* lbs. ral. arnica, 3*s.*; 7-lb. parcels, 6*s.* 2*d.* 2*s.* 2*d.* Eight oz. Aleppo scammony and 8 oz. ol. M. pip. (Hotchkiss); cash offers. A. P. S., 31 Argyle Square, W.C.

Five gross each pil. col. e. hyd. et hyoscy., rheo. P.L., aper. c. cal., all 5 grain; 10 gross pills c. zinci valer., 1 gr.; 3 gross pil. pepsine, 5 gr., all Cox's, coated; any reasonable offer. B., 88 Rye Lane, Peckham. Pulv. rhei, E. I. opt., finest quality, 3*s.* per lb. pottery bottles; 14 lbs. pulv. scillae, 1*s.* per lb., in good condition; cash or exchange; samples sent. Alexander, Chemist, Edinburgh.

Offers wanted for 24 lbs. tinct. opium, B.P., 2 lbs. ol. enebbea, 14 lbs. pulv. jalapae, 6 2-lb. bottles ol. lavand. exot., 3 bottles H. G. Hotelkiss ol. menth. jip., 1 Win. tr. benzoin co., 5 Win. ol. jecoris aselli (Wyley's), 6 doz. 6*d.* Pillings & Graham's benzine, 6 doz. 1*s.* do. "Chemicus," 78 Faulkner Street, Manchester.

For Cash.—Seven boxes alecs barb. opt., 1*s.* 6*d.* 1*b.*; gum, Turkey sorts, 6*d.*; good flor. anthem., 6*d.* 1*b.*; best quality 9*d.* 1*b.*; good East Indian rhubarb, 1*s.* 6*d.* 1*b.*; best Messina essence lemon, 8*s.* 6*d.* 1*b.*; fine gum Benjamin, 1*s.* 8*d.* 1*b.*; about 14 lbs. shellac, 1*s.* 3*d.* 1*b.*; finest cod-liver oil (5-gallon lots), 6*s.* 6*d.* per gallon; finest ol. geranii ture, 2*s.* per oz.; three bottles H. G. Hotel. oil mint, 14*s.* 3*d.* per lb. Hicks, Chemist, Hornsey Rise, London, N.

Proprietary Articles.

Myers' Royal Cattle Spice, in 1 cwt. and ½ cwt. bags, 19*s.* per cwt. 9*s.* 2*d.*

3½ cwt. Myers' cattle spice, 24*s.* cwt.: satisfactory reasons for disposal. B. Wood, New Pellon, Halifax.

Nine Hop Bitters, 4*s.* 6*d.*; three Glacialine, 2*s.*; two Nestle's Food, 2*s.*; offers invited in standard patents. White, Chemist, Cuckfield.

Having bought bankrupt stock patents, offer 1*s.* 1*b.*, 8*s.*, 2*s.* 9*d.* 2*s.*, guaranteed clean, fresh, and unopened; not less than dozen sold; assorted; 1 oz. ol. lavand., August, 1879, warranted, 8*s.* 6*d.*, sample 1*s.* 9*s.* 12*s.*

One 22*s.* Congreve's elixir, one 11*s.* Croshy's cough elixir, one 11*s.* Brown's chlorodyne, all perfectly clean and fresh; will take half retail price. Thomas Charles Taylor, Chemist, Long Row, Nottingham.

Offers wanted for the whole or part of 1 dozen 2*s.* 9*d.* Coleman's Liebig's meat and malt wine, 6 doz. 5*s.* Fullwood's fluid extract annatto, 6 doz. 5*s.* Freeman's fluid extract annatto, 1 cwt. Pott's Royal cattle spice. A. Brimmer, 17 Newcastle Street, Farringdon Street, E.C.

Two Nightingale's invisible respirators; two Fox's tooth-keys, half price; Richardson's hydroclicie; Whelpton's, Woolcock's, and Parr's pills; Boult's embrocation and other patents, soiled, below cast; 2 galls. Long's sheep-dip, 10*s.*; chilli vinegar, vermicelli, &c. Offers. Payne, Chemist, Market Rasen.

Apparatus.

Cans, clean and sound, various sizes, cheap. Particulars apply, H., 70 Moniers Road, Old Ford, London.

A bargain, one of Crossley's one-horse power "Otto" gas engines, cost recently over 10*s.* 1*b.*, sole reason for selling more power required, price 35*s.* Hay, Chemist, Regent's Terrace, Hull.

Very strong second-hand tank, a bargain, 4 ft. square, covered, holds 400 gals, last a lifetime, for any purpose. J. Blomfield, St. Botolph's, Colchester.

Two superior squire wrought-iron riveted covered oil-tanks, size 400 and 200 gallons; quite new, and guaranteed; price 3*s.* 5*s.* and 2*s.* 5*s.*; a bargain. G. C. B., 23 Buahill Row, London, E.C.

Literature.

Copland's Dictionary, one vol., 1866, price 18*s.* Brown, Chemist, Sandown, I.W.

See advertisement in last month. What offers? Jones, Pharmacist, Treherbert

Mackenzie's Encyclopaedia, 13 vols., cost 7*s.* 16*s.*; what cash offers? Hambridge, Chemist, Highworth.

"Year-book of Pharmacy," from 1874 to 1880 inclusive, good as new, price 15*s.* Junior, Marshfield, Chippenham.

Large Family Bible, illustrated, steel plates, quite new, cost 3*s.* 3*s.*, take 1*s.* 10*s.* C. Malone, 59 Camberwell New Road.

A few Preliminary books by Wills, Judd, and others, cheap. A. P. S., 31 Argyle Square, W.C.

Pharmaceutical Journal, posted on Monday; offers wanted. Jenner, Chemist, Bury St. Edmunds.

Chemist and Druggist for 1871, '72, '74, '75, '76, '77, '78, '79, bound volumes, 1880-81 unbound; in one lot 1*s.* per volume. John Ekius, Chemist, Bedford.

Chemist and Druggist from June, 1873, to December, 1878; *Pharmaceutical Journal* from January, 1869, to December, 1878, complete, unbound; offers wanted. Griffith, Vronheulog, Bangor.

Art Journal, gilt edges, 1851, 10*s.*; *Art Journal Illustrate Catalogue*, 1851, gilt edges, 5*s.*; Finden's "Tableaux," 12 steel plates, with descriptive letterpress, 5*s.*; carriage free in London. J. E. Eastman, Tottenham.

Atkien's "Practice of Medicine," 2 vols., 8*s.*; Watson's ditto, 5*s.*; Wood's ditto, 7*s.*; Carpenter "On the Microscope," 8*s.*; Beale on ditto, 7*s.* 6*d.*; Balfour's "Class-book Botany," 10*s.*; Druitt's "Surgeons' Wade Mecum," 2*s.* 6*d.*; Carpenter's "Physiology," 4*s.*; Quain's "Anatomy," 2 vols., 10*s.*; Muter's "Chemistry," 5*s.* 6*d.*; Tome's "Dental Surgery," 5*s.*; Taylor's "Jurisprudence," 3*s.* 6*d.* A. P. S., 31 Argyle Square, W.C.

Cooley's Cyclopaedia, three first numbers 3*s.* 6*d.*, cost 7*s.* 6*d.*; Bentham's "British Flora," 6*s.* 6*d.*; Newman's "British Moths," illustrated, with 3*s.* 6*d.* worth of boxes, setting-boards, &c., 8*s.* 6*d.*; Pereira's "Materia Medica," three vols., with plates, 15*s.*, cost nearly 3*s.*; Ganot's "Physics," 5*s.* 6*d.*; Noad's "Handbook of Commercial Chemical Analysis," new, 6*s.* 6*d.*, published 12*s.* 6*d.*; many others equally cheap. Nosworthy, Chemist, Melksham, Wilts.

Britten's "Dispenser's Wade Mecum," 3*s.* 6*d.*; Judd's "Mnemonies":—"Tinctures," 1*s.*; "Ointments, Syrups, Physics," 6*d.* each; Judd's "Materia Medica," 1*s.* 3*d.*; "Analysis," 9*d.*; "Botany," 6*d.*; Bentley's "Botany," 5*s.* 6*d.*; Fowne's "Chemistry," 2*s.* 6*d.*; Royle's "Materia Medica," 2*s.* 6*d.*; Garrod's ditto, 3*s.* 6*d.*; Taylor's "On Poisons," 3*s.* 6*d.*; Christison "On Poisons," 5*s.*; Major Herbarium, 5*s.*; "Magnacoepia," 1*s.* 6*d.*; "Selecta & Prescripta," 2*s.* 3*d.* A. P. S., 31 Argyle Square, W.C.

Gray's "Supplement," 8*s.* 6*d.*; Pereira's "Materia Medica," 3 vols., 18*s.*; Mohr and Redwood's "Pharmacy," 6*s.*; Bentley and Trimen's "Medicinal Plants," Part I. to XXXIV, wanting Parts IX. XI. XXVIII. and XXXII., 4*s.*; or Parts I. to XII., 35*s.*; Hempel's "Materia Medica," 8*s.* 6*d.*; Hngles' "Pharmacodynamics," 7*s.* 6*d.*; Griffin's "Chemical Handicraft," 2*s.*; Phillip's "Translation," 6*s.*; Williams' "Chemical Manipulation," 6*s.* 6*d.*; *Pharmaceutical Journal*, odd vols. to complete sets; "Year-book of Pharmacy," 4*s.* per vol. Eade & Caulfield, Medical Booksellers, 7 Princes Street, Cavendish Square.

Educational.

Botany.—Over 100 indigenous plants, including official, mounted, classed, named, 6*s.*, carriage free. Tully, Taunbridge Wells.

Set of illegible autograph prescriptions (original), 2*s.* 6*d.*; 30 prescriptions (catch and difficult) given to dispense at Minor during past 12 months, 2*s.*; 50 questions asked of successful students at last Minor. 1*s.* 1*d.*; lot of cheap, almost new, books, stamp for list. Saunders, 79 Gaisford Street, N.W.

Shares.

Thomas Charles Taylor, Chemist, Long Row, Nottingham, has a few shares left in Chemists' Aerated Mineral Water Association for disposal,

Shop Fittings.

Cigar-case, mahogany, Maw's fig. 83, good as new; what offers? 9/-12.
A lot of cut stoppered window-curboys, specimen jars, very cheap. J. Allen, Chemist, Plymouth.
2 oz. thick white covered pots, about 2 gross. 12s. per gross. Balldou & Son, 73 Princes Street, Edinburgh.
Asbestos gas stove, suit shop, cost 2l. 18s. 6d., take 12. 10s. or good second-hand armchair and cib. C. Malone, 59 Camberwell New Road.
Dispensing scales, as fig. 5, May Roberts' Est., 10s.; three-grain pill machine, good condition, 10s.; cash with order. Wilby, Belgrave Gate, Leicester.

The entire fixtures of 4 handsome chemists' shops for disposal, made to suit any shop, great bargains. Lloyd Rayner, 333 Kingsland Road, London, N.

What offers for Abraham's reviving advertising lamp, cost about 2l.? would require fresh slides, as those in it have come on. Stead, Chemist, Heckmondwike.

Counter-case, 3 feet 6 inches long, 8 inches high, 12 wide; bent plate-glass, in three divisions, centre wide; three ground edge glasses for tooth-brushes; cost 8l., take 2l. Weston, Ventnor.

Will be sold cheap.—Two very handsome show-jars without stands, similar to Maw's fig. 1, but with gilt turned wood covers, height to the top of cover 31 inches. Thos. Chas. Taylor, Chemist, Long Row, Nottingham.

2 ft. long, 2 ft. 6 long, 3 ft. long, 3 ft. 2 long, 3 ft. 6 long, 4 ft. long, 4 ft. 3 long, 5 ft. long, 5 ft. 4 long, 6 ft. long, 6 ft. 4 long, 9 ft. 6 long, 10 ft. 10 long, 12 ft. long, 14 ft. long, 14 ft. 9 long, 16 and 18 ft. long nests mahogany-fronted shop drawers; 10 nests deal-stained mahogany shop drawers; 5 ft. long 6 ft. 8 long deal stained mahogany-top counters, with drawers; 9 ft. 8 long, 10 ft. long mahogany-top counters, with glass-case fronts; 7 ft. 6 long mahogany-fronted counter, with carved trusses; 4 ft. long, 5 ft. long, 6 ft. long, 8 ft. long, 10 ft. long, 12 ft. long, 14 ft. long, 16 and 18 ft. long mahogany-top counters; 2 ft. long, 3 ft. 2 long, 4 ft. 2 long mahogany upright counter-cases; 2 ft. 6 long, 3 ft. long mahogany desks, with screens, as 37 and 79 Maw's; 2 ft. long, 2 ft. 6 long mahogany cases, with desks, as fig. 21 Maw's; sponge-cases, as 90, 91, 92 Maw's; cigar cases, as fig. 53 Maw's; handsome counter-cases, as 43, 73 Maw's; tooth-brush case, as 72 Maw's; soda-water stand, as 63 Maw's; counter-cases, as fig. 8, 7 Maw's; 5 ft. long, 6 ft. long, 8 ft. long counter-cases, as 97 Maw's; 9 ft. 6 long bent plate-glass counter-case, as 104 Maw's; 4 ft. long dispensing-screen, as 40 Maw's; 3 ft. long, 4 ft. long, 4 ft. 6 long, 5 ft. long, 6 ft. long, 7 ft. long, 8 ft. 8 long handsome dispensing-case screens, as figs. 163, 164 Maw's; 6 ft. long handsome dispensing-screen with mirror centre and written ornamental tablets at each end; 6 ft. long, 7 ft. long, handsome dispensing-case screens with mirror centre and a case at each end; 2 ft. long, 2 ft. 6 long, 4 ft. long, 6 feet long, 8 ft. 6 long, 10 feet long, 12 ft. 6 long, 13 ft. 2 long, 14 ft. 6 long, 20 ft. long handsome mahogany wall-cases, with cupboards under; quantity mahogany-faced shelving, glass shelves, window enclosures, 5 handsome outside shop lamps and brackets; large mixing and sheep-ointment mills; 10 gall., 25 gall., 40 gall. oil-cisterns; quantity tea and store canisters dispensing and counter scales, as figs. 1 and 7 Maw's. Lloyd Rayner, 333 Kingsland Road, London, N.

Cheap.—Four 2-gallon pear-shaped show-bottles. Hammond, Chemist, Hull.

Two 24-inch show-jars, as Maw's, fig. 1, page 115, gilt caps; offer wantel. Hinton, 28 Bedford Street, Strand, W.C.

A mahogany dispensing-counter, 11 feet 6 long, 2 feet 6 wide, with handsome polished mahogany screen front, fitted with drawers; desk, with brass bookshelf; water-cistern, with tap. Apply, G. Waugh & Co., 177 Regent Street, W.

Handsome 18-inch lamp, glazed, clear glass, and fitted with three bottle-lenses, also ornamental 4-foot cast iron bracket, as fig. 6 Maw's catalogue, in good condition, almost new, price only 4/-10s. Address, J. Garrett, Chemist, Brighton.

Two mahogany-top counters, 8 feet 6 inches and 4 feet 6 inches; about 120 feet mahogany-fronted shelving; nest polished drawers (38); small picture-press; 18-inch circular ruhy lamp; green lenses and bracket; few shop rounds; no reasonable offer refused; about 4 doz. various patents. Stamp for list. Cambridge, Chemist, Highworth.

20 nests of mahogany-fronted chemists' drug-drawers. French polished and fitted with glass knobs, in nests from 2 feet to 12 feet long, price from 2s. per drawer; over 200 feet mahogany-edged shelving; mahogany-top counters; desks and cases, and other chemists' fittings; large centre-table case, suitable for chemists, grocers, perfumers, cost 80/-, cash price 8/-; handsome dispensing counter, cost 40/-, price 25/- Apply, B. & G., 22 Gun Street, Brushfield Street, Bishopsgate, London.

Soda-water Plant.

Aërated-water Manufactory.—Vertical combined steam-engine and boiler, lead generator, copper gasholder in oak tub, double pump, (Brahma principle), large condenser, three filling machines, siphon in patents, corks; can be seen at work by appointment; satisfactory reasons; second-hand; terms arranged. Particulars, N. G. Wilcocks, Back Street, Bath.

Formulae.

Fragrant foaming dentifrice (like "Floriline"); marking ink, *sine* silver (auiline), writing executed dyes chemicals; effervescent fruit saline (resembles Eno's); magic neuralgic drops (never-failing remedy); quinine and iron tonic (resembles Pepper's); hime-juice and glycerine (inseparable, white as milk); blue-black ink (non-corrosive, *sine* iron or gall); cherry tooth paste (never ferments, like Gornel's); brilliantine (inseparable, like Rimmel's); pill-coating (pearly white, no mucilage or mastic used); glycerine jelly (perfectly transparent); crimson marking ink; hair restorer (colourless, no deposit, *sine* silver); aromatic vinegar; toilet vinegar (as Rimmel's); plate-powder (like Stevens' "Silieon"); Oleum Flavum Conc., for pomades (colour stable); soluble essence ginger (like Hay's); corn solvent, clear (not acid); liquor copaiba comp. c. buchu et matieo (mixes clear with water); gonorrhœa paste, excellent (Dr. Ricord's); taraxacum and podophyllin (resembles Pepper's); with many others; send stamp for list, stating wants. The toilet preparations are identical with those prepared by a wholesaler West-end firm; others equally good; all inexpensive to make; 5s. each (five for 1l.). Readers are cautioned against cheap and worthless imitations. I was first to advertise formulae in this journal. Note address, "Analyst," care of Mr. Warnes, 79 Gaisford Street, N.W.

Few choice recip's for veterinary preparations, cough linctus, and toilet requisites for sale, cheap, or singly. Mr. Stock, Chemist, Cuckfield.

My formula for perfume, which lately obtained the premium, "having upwards of 170 competitors," I will forward on receipt of stamped addressed envelope and 18 stamps.—Testimonial received from Chemist, South Coast. "Your premium perfume gives entire satisfaction, figuring conspicuously in leading daily sa's. The magnitude of last month's make almost induces me to call it my 'October brew.'" Address, E. Evans, 12 Derwent Villas, Champion Hill, S.E.

Liquor ferri iodidi, a permanent solution, keeps any length of time, retaining its beautiful green tint to the end, 1 part added to 7 parts of syrup forms the syrup. ferri iodid., B.P.; concentrated essence of coffee; gout and rheumatic pills; tie coulourex pills (guaranteed cure); phosphor paste; diamond cement; dandelion coffee; gonorrhœa mixture; gleet injections, without medicines; plate powder (*sine* mercury; commands a good sale); magic toothache drops; several other good recipes; 2l. 6d. each, 5 for 10s. "Chemicus," 65 Romilly Road, Finsbury Park, N.

"Cibilblain Remedies," for broken and unbroken, almost instant ease; "Glycerine Cough Linetus," most excellent remedy, always reliable, pleasant taking, not expensive; "Hooping Cough Syrup and Embrocation," quickly cure booping cough, however severe, syrup most agreeable, embrocation resembles Roche's; "Vium Vitæ" (beef, bark, and iron), strengthening, appetising, blood forming, and nerve-bracing, elegant appearance, pleasing taste; "Christmas Bouquet," most *recherché* perfume, quickly made, and universally liked, cost moderate; "Flavoured Browning," most useful culinary adjunct, gives rich appearance and appetising flavour to gravies, inexpensive; "Glycerine and Almond Jellies," three colours, attractive appearance, firm and saleable; "Mist. Gonorrœa" (capiivi), nauseous taste covered, inseparable and most reliable; "Cryptymosis," infallible injection for gleet and all long-standing discharges, very profitable; "Campholyde," a certain external specific for neuralgic and other pains; "Amygdaline Balm," most elegant and useful of all proprietaries, quickly cures frost bites, chapped hands, rendering the skin soft as velvet, quarter price of glycerine; "Lime Cream and Glycerine," creamy, snow-white, quite inseparable, guaranteed best in market, from 2s. 6d. per gallon; "Entirely New Remedy for Toothache," gives instant ease, non-poisonous; "Nigerine," jet-black, waterproof patent blacking, quarter price of Nubian, contains oil, does not injure leather; "Rheumatic Embrocation," best and cheapest remedy in existence for the relief and cure of rheumatism, sciatica, &c., 7d. per lb.; "Digestive Relish," most delicious sauce in creation, costs from 3s. gallon; "Quinine and Iron Tonic," splendid preparation, bright and unchangeable; "Worm Syrup," purely vegetable, pleasant tasting, rapidly effective; "Occasional Pills" (for ladies), preferred by many to Welch's or other female pills, no decomposition; "Lavender Water," equals Sainsbury's in aroma and durability of fragrance. All above guaranteed genuine. Money returned if not app'ved of. Detailed list of 81 post free. Recipes 1s. 1d. each, 3 for 2s. 6d., 25 for 1l., post free, with full directions for making, doses, uses, &c., by T. Brooks, Chemist, Louth, Lincolnshire.

My formula for Glycerine Cough Linctus was the acknowledged success of last winter's season; of a brilliant ruby-red colour, very efficacious, and keeping any length of time; it should be found on the retail counter of every chemist from John o' Groat's to Land's End. Sent on receipt of 18 stamps and stamped directed envelope from H. Lloyd, The Plains, Totnes, Devon.

Miscellaneous.

Sixteen boxes Continental cigars, 100 in each, brand "El Aso Principes," cost, three years ago, 10s. 6d.; price, 7s. 6d. a box. 98/22.
"Devon" tricycle, new this spring, little used, cost 25/-; price, compete, with lamps and extras, 16/- 16s. 15/15.

Violin-case and bow; one of the best copy Stradivarii; fine tone; price 3/- Webb, Chemist, Calne.

George II. sixpences, 9d., 1s., 1s. 3d., 1s. 6d., and 1s. 9d. (merit) each. Arthur Graeme, Blenheim House, Cotham Brow, Bristol.

Homeopathic case, Leath & Ross'; contents would realise about 5/- 7s. 6d. What offers? Smart, Steyning.

My sole violin, handsome Cremona copy, Stradivarii, in new case, and bow; sent on approval for 25s. Address, Miss I. Carter, 1 Broad Street, Pendleton.

Sterling silver three-quarter plate horizontal watch, nearly new; good timekeeper; cost 50s.; will accept half cost; nice Christmas present. Mr. Stock, Chemist, Cuckfield.

Glass tablet, "Prescriptions Prepare," white and gold, mahogany frame, about 36 inches by 4, quite new, 10s.; "Pereira," early edition, 6s.; Scott's cigarettes, 1s. size, 3s. doz., 2s. size, 6s. doz. Smith, Ludlow.

Billiard-table, 8 by 4, to stand on dining-table; 3 balls, 6 cues, rest, spirit level, marking-board, &c.; good as new, little used; cost about 13/- What offers? Chemist, 70 Blackwell Street, Kidderminster.

A rare and beautiful Irish water spaniel bitch; highest prize; pedigree: sire, champion prize dog, Wallace; dam, Molly—Melly ex prize bitch. Young Kathleen, by prize dog, Limrick; cheap to a good home. Hay, Chemist, 4 Regent's Terrace, Hull.

Spectacles, assorted, 64/-, retail; what offers? 89/19.

Quantity of good black ink, homoeopathic show-chest (full), list of odd patents, 12-inch agate balance with drawer, 6-gallon show-carboy, 6-foot glass counter-case, 20,000 gilt violet-powder wrappers. Wilks, Burnley. Jeffrey's respirators, seals unbroken, several prices, all at half-price; Nelson's beef-tea, 6d. packets, 4s. 9d. per dozen; in good condition; two hot-air feeding-bottle warmers, cost 2s. 3d. each, sell for 1s. 9d. each for cash only. S. J. Coley, Chemist, Stroud.

4 doz. 1s. plate-powder; 2 lbs. white tubing; 2 oil-cisterns with taps, hold 10 or 12 gall.; 2 mirrors in frames, 37 by 18; pair brass scales on stand; 8 doz. 1d. tooth-stopping. What offers? Brown, Chemist, Earles-ton.

Overstock.—A 40 lb. tin glycerine, specific gravity 1.250, 1s. 2d. per lb.; about two gross perny assorted aniline dyes, the lot for 5s. 6d.; four gross boxes seidlitz-powders (best materials) packed for export, 4s. 9d. per doz. boxes; 12 dozen perfectly clean porous chest protectors, 2s. 6d. per dozen for the lot, or less quantity. Banner, 56 Boaler Street, Liverpool.

Upright mahogany show-case, 2 feet high, 4 feet 6 long, with movable plate-glass shelves and return end, semicircular glazed front, inside fitted plate-glass shelf, 23 in. long, 6 wide, movable, good condition, 5 guineas; ten pairs tooth forceps and key instrument, extra claws, 32s.; fine pale cod-liver oil, in Winchester quarts, quantities to suit purchasers, 6s. 6d. gallon; good liver Barbados aloes, 7-lb. parcels for 10s. Moore, Chemist, Cheltenham.

Solazzi sticks, 1s. lb.; ditto paste, 3 cwt., offer wanted; curry powder, 30 lbs., 1s. lb.; Judson's dyes, 4 doz., 3s. doz.; Cape aloes, 1 cwt., 6d. lb.; Barbados, 1s. lb.; Freich's milk food (like Nestle's), 2s. tins, 10s. doz.; 50 small Turkey cups, 6s.; Gayetty's paper, 1 doz., 1s. 6d.; Burgoyne's feeders, 1 doz., 1s. and 1s. 6d.; 100 sponge-bags, 37s. 6d. the lot; demy, 19 lbs. and 21 lbs., 6 reams, 6s. 9d. and 7s. 6d.; otto rose, 100 oz.; ol. lavand. mitch., 6 oz.; offers wanted, samples on payment; eight 20-oz. blue syrups, gold labels. Day & Co., Herne Hill, S.E.

WANTED.

Mann's medicin. White, Chemist, Cuckfield. Parker's paper-fibre lint. State price. 89/28. Soda-water plant. 97/6. Drugs, chemicals, sundries, tooth instruments, boxes, bottles, &c. 98/34. Six 30-oz. tube-stoppered oil-bottles. J. T. Cross, Wingate, Durham.

A 3-grain Cocking's pill machine in exchange for a 5-grain. W., 74 Market Place, Sheffield. Small dental lathe for operating-room. George Best, Chemist, Darlington.

Latest edition Cooley's "Cyclopaedia." Jeal, Vicarage Road, Plumstead, Kent. Still-mixer for liquids, 50 or 60 gallon drum. Wilks, Burnley.

A large tincture-press. J. M. Wilson, 16 Leven Street, Edinburgh.

The "Dispenser's Vade Mecum," or any analogous work; state price. 94/30.

Pharmacographia, and Armstrong's "Organic Chemistry"; state editions. 18 Canonbury Villas, Islington.

2½ and 3 grain pill making and mixing machines. T. Harding & Co., St. Philip's Bridge, Bristol.

Watt's "Chemistry," latest edition and supplement, complete and perfect condition. E. Barron, Harvey & Co., Giltspur Street.

Squire's "Companion," good order, latest edition. Osborne, Chemist, Moss Side, Manchester.

Pharmaceutical Journal, third series, bound; last edition of Bentley's "Botany"; state lowest price. 94/15.

Chemist and Druggist, 1876, unbound, clean. Lowest price to Peel, Chemist, Herne Hill, London.

Show-jars, carboys, bottles, pots, &c.; also square oil-cisterns. Particulars to R. F. Brown, Chemist, Cockermouth.

About 100 recent original French autograph prescriptions, by different writers. Price and particulars to G. Brown, Chemist, Sandown, Isle of Wight.

Stock and fixtures of shop, complete; send full particulars, lowest cash price, and where to be seen. "Chemist," 20 Jewry Street, Aldgate, London.

Cooley's "Encyclopaedia on Arts, Manufactures, and Trades," complete, 1880. Address, L. B. L. care of Currie & Hutchinson, Newcastle-on-Tyne.

A nest of mahogany-fronted shop-drawers, containing two rows large, three rows small drawers, 8 feet long; also 8 feet long mahogany window enclosure. Particulars and price to Parker, Chemist, Milnthorpe.

Miscellaneous.

SELECTION OF THE WEAKEST.—At a French matrimonial agency office.—"Oh! yes, sir, we have what you want, an orphan of about 20 years of age." "Very good. Is she pretty?" "Not particularly, but she has a fortune of 50,000f. And, besides, she is consumptive." "Consumptive! Are you quite sure of that?" "Ob! certainly, sir; we guarantee it."

HAHNEMANN was one day consulted by a wealthy English lord. The doctor listened patiently to the patient. He took a small vial, opened it, and held it under his lordship's nose. "Smell! Well, you are cured!" The nobleman asked, in surprise, "How much do I owe?" "A thousand francs," was the reply. The patient immediately pulled out a bank-note and held it under the doctor's nose: "Smell! Well, you are paid!"—*Pharmacists*.

CALIFORNIAN PHARMACY.—According to the *Pacific Medical and Surgical Reporter*, a practitioner of Alameda county, California, found at the bedside of a patient a genuine pot of bullfrog ointment, which was described as being "the best thing in the world for sore breasts," for which purpose it was being used. This valuable and elegant remedy is made by bringing 1 pint of milk to a boiling temperature, throwing into it a live bullfrog, and boiling down to a paste, straining out the bones.

MODERN SCIENCE AND MIRACLES.—The Paris *Evenement* reports a conversation between a couple of sages of the most modern pattern. One mentioned the resurrection of Lazarus. "The dead never rise from their tombs nowadays," said he. "No," answered the other naïvely; "medicine has made too much progress for that!"

"HOW FLAGRANT IT IS!" said Mrs. Mixer, as she sniffed the odour of a bottle of Jamaica ginger. "It is as pleasant to the oil factories as it is warming to the diagram, and so accelerating to the cistern that it makes one forget all pain like the ox-bide gas that people take for the toothache. It should have a place in every home where people are subject to buccal and such like maladies; besides, a spoonful is so salubrious when run down like a boot at the heel in walking, one feels like a new creature."

MR. FIELD related a characteristic anecdote of the late Sir William Fergusson, who, after a successful operation on a Manchester millionaire, was asked by the patient to name the fee. "Two hundred guineas," was the reply. "Two hundred guineas!" exclaimed the patient. "Yes," said Sir William; "you forget the life-long experience required to give the proper skill, the time and toil of the journey, and the loss of practice in London." "But you have been only ten minutes about it," said old Dives. "Oh, if that's your only objection," said Sir William, in his broad Scotch, "the next time I come I'll keep ye an' oor under the knife."—*British Medical Journal*.



STILL the improvement in the general trade of the country appears to be maintained, and as far as can be judged the year will close satisfactorily as far as commercial results are concerned. The Board of Trade returns for November indicate a decrease of over 10 per cent. in the imports when compared with November 1880. The "fair traders" might be expected to look on this bare fact as a happy one, but economists would see in it, without explanation, a suggestion of alarm. However, the decline is no doubt partly due to exceptionally bad weather, which has retarded the arrival of cargoes, and partly to the much more satisfactory cause, that the home harvest has turned out more abundant than was at one time reported. Although wheat has been imported in larger quantities, the extra price paid for that has been far more than counterbalanced by smaller imports of barley, oats, maize, flour, potatoes, and meat. The exports for the month were valued at 20,713,164*l.* In November 1880, they were 18,864,700*l.* The increase has been fairly spread over most of the great productions and manufactures of the kingdom, and, indeed, alkali, candles and seed oils are the only sections of our national industry where a decline has occurred.

The chemical figures are as under :—

	Nov. 1880	Nov. 1881
Alkali, exported	ewt. 605,594 ..	601,324
Alkali	value £195,336 ..	£186,908
Other chemicals	value £213,137 ..	£237,276

Dullness prevails in the alkali market, and crystals, caustic, and bicarbonate all mark a decline since last month. The Lancashire manufacturers have organised a committee "to regulate the output," but the announcement has not frightened buyers into ordering more than they require. Bleaching-powder, however, is in stronger demand, and large contracts for the whole of next year have been concluded, especially for America. The price at Liverpool is for the moment higher, but at present it is quoted, as before, at 5*l.* to 5*l.* 5*s.* in London.

Citric acid is again higher, and is very firm at the present quoted price of 2*s.* 1*½d.* For forward delivery makers ask 2*s.* 3*d.* Tartaric acid is also again 1*d.* per lb. higher on the month, and cream of tartar is also somewhat dearer. There are some anticipations of considerably increased prices for these products in the new year. Oxalic acid has held the position firmly which it had gained last month, and has sold steadily at 6*d.* net. The expectation of a further advance seems to be dependent on a continued demand at the higher rates. Sal acetos has become very scarce, and is bought at 8*½d.* to 9*d.* This price is mainly due to the advance in oxalic, but is also occasioned by the limited stock held in the market.

Ammonia is unchanged, and demand moderate.

Potash salts have not varied, but the demand is very dull, and they have a tendency lower.

Sulphate of copper is in good demand at stronger prices. Borax still keeps steady at previous prices.

Quicksilver is a fraction lower, but mercurials are the same as last month.

Quinine has remained steady during the month, but the recent influx of American orders (referred to below) is likely to occasion at least a temporary stiffening. German quinine has been sold down to 6*s.* 9*d.*, but it cannot now be bought at less than 7*s.*, and probably it would be difficult to obtain a large supply at that rate. It is probable that the American orders are speculative, and due to the anticipation of a re-imposition of duty. The demand for quinine has had a distinct effect on the bark markets, where the prices of finer qualities are appreciably higher. The great bulk of the trade done, however, has been in cuprea, which still continues to arrive in enormous quantities, and which has been let go at a slight reduction.

In the drug markets a more active business has been transacted both for home and foreign orders.

Cape aloes have arrived abundantly, and a further decline has been the result.

Cubebas keep very dear, but the present prices check consumption. The original cause of the scarcity is said to be the purchase of large quantities in the United States for an asthma specialty.

Cinnamon.—The quarterly auctions held on November 28 presented the largest supply ever known, viz., 6,213 bales against 3,189 bales at the August sales, and 3,360 bales in November last year. Owing to the excessive supply the sales went off flatly, and although holders were mostly disposed to meet the market, the demand was slow, and prices show an irregular decline of 4*d.* to 6*d.* per lb. Barely 3,000 bales found buyers. Since the sale there has been a good demand, and about 1,200 bales have been sold, prices closing rather dearer.

Campbor is dull, and rather lower than last month, but refiners have not reduced their rates.

Cardamoms have arrived in some abundance, and prices are easier.

Balsam Copaiba still keeps up its price. The supply is still insufficient. Balsam of Peru is very scarce, and can only be bought at higher prices.

Colocynth has been put on the market, but holders who have been asking high prices are still too exacting for buyers.

Aniseeds are held firmly for higher prices. Tonquin beans are easier. Vanilla is also lower.

Saffron is arriving, and as the new crop of Spanish is said to be abundant it is sold at lower rates.

Opium has been firm on this market, but without any activity in the demand. A similar condition prevails in the United States. Morphia is firm at 7*s.*

Gums show but little change. Benjamin is still held for extreme rates. Copal is in abundant supply, and is to be had rather lower. Gamboge has been bought freely and keeps steady at late advance. Olibanum is held firmly, but buyers only purchase for actual requirements. Sandarac has declined.

Shellac has been a very dull market, and closes on the average 10*s.* lower than last month.

Belladonna is very scarce, and druggists now charge higher for the extract.

Rhubarb has been offered more abundantly, and the lower qualities especially are easier.

Buchu leaves are much higher, and long narrow have sold at 1*s.* 6*d.* and are held for 1*s.* 9*d.*

Turmeric has been bought by speculators, who hold for advanced prices.

Linseed has been arriving in abundance, and the demand has been but slight. A considerable reduction in value has consequently ensued.

Indigo is steady, but it is reported that prices in Calcutta are 6*d.* per lb. higher than those ruling here.

Oils.—Olive has not sold briskly, and holders have accepted a slight decline. Fish oils have hardly maintained the point they reached last month. Linseed oil has slightly declined in consequence of the lower prices for seeds. Rape, too, is rather lower. Cocoanut, palm, and cottonseed, are also all easier. Petroleum has fallen a fraction below the extremely cheap prices of last month, but it is quoted $\frac{1}{4}d.$ higher for January. Turpentine, too, has declined to 41*s.* per cwt.

Opium.—Messrs. BARRY & CO., of Smyrna, write to us on December 2 as follows :—

We opened the month of November with an active market, and it was thought for a moment that our quotations would be pushed upwards, but, as no other consuming market except that of Holland was purchasing, holders did not find it convenient to become more exacting, and the price of 118*p.* was not exceeded.

A few firms in this place, having made speculative sales, have been compelled to be on the market all the month looking out for fine qualities, for which they have paid an advanced price of 4 or 5 piastres in consequence of their rarity.

Such is, in brief, the record of our market during the month just passed ; we commence the present month under similar conditions. Houses representing Holland are the only present purchasers, and apparently these have not yet covered their commissions.

The sales of the month amount to 467 cases of good opium, and 133 of tali-quale and Chiquinti. Total, from the commencement of the season, 3,363 cases of good, and 1,101 of tali-quale and Chiquinti. The November arrivals amount to 393 cases. Total, from the commencement of the season, 5,545. Up to November 22 the arrivals at Constantinople were 2,200 cases, and the stock in hand there 400 cases.

Subjoined we send you statistics of the price and production of opium since 1870, which, we think, will prove of interest.

Monthly Prices of Opium from 1870 to 1881.

The prices given are in piastres, and are those of the beginning and of the end of each month. (100 piastres = about 11s.)

	1870-71	1871-72	1872-73	1873-74	1874-75	1875-76
June ..	— 255	150 155	160 170	210 200	260 260	140 130
July ..	260 210	150 130	185 185	215 217	250 265	125 135
August ..	185 220	185 145	185 176	200 205	265 245	137 135
September ..	215 230	132 140	180 198	210 210	230 250	130 140
October ..	210 210	135 135	200 220	220 220	260 255	145 141
November ..	214 200	140 137	225 215	205 205	255 250	140 140
December ..	203 220	135 138	210 215	205 190	230 235	142 142
January ..	210 200	140 137	220 215	180 180	215 200	145 142
February ..	200 192	140 160	195 200	185 175	200 200	135 135
March ..	178 160	160 162	175 175	180 205	210 200	140 145
April ..	155 143	158 155	180 185	210 270	210 210	130 130
May ..	135 140	155 158	185 193	265 255	200 185	126 122
Crop	4,500	8,500	4,100	3,150	2,430	6,300

	1876-77	1877-78	1878-79	1879-80	1880-81	1881-82
June ..	140 145	130 —	124 —	140 145	230 250	127 —
July ..	160 170	130 132	123 125	145 150	240	115 105
August ..	174 185	128 125	127 124	140 —	230 235	103 106
September ..	165 160	133 124	123 —	140 —	230 235	114 118
October ..	162 185	138 135	123 120	140 150	230 235	115 118
November ..	185 190	138 133	120 128	150 —	220 215	118 120
December ..	190 190	132 132	132 —	148 143	210 200	—
January ..	170 180	133 131	132 125	143 155	200 185	—
February ..	178 —	128 130	125 —	160 160	180 205	—
March ..	165 150	129 124	122 125	165 230	210 180	—
April ..	145 180	126 127	125 122	250 230	175 150	—
May	175 160	—	130 140	240 230	145 135	—
Crop	3,250	9,450	6,050	4,300	2,100	—

The following is taken from the report issued by Mr. RICHARD BARKER, Smyrna, November 30, 1881:—

The demand for this drug (with the exception of 15 cases of Bogaditz for South America, and large sales of seconds, chiefly for China and the Continent) has been chiefly confined to the Karahissar qualities for account of the Dutch Government.

According to present appearances a decline in opium is improbable for some time to come, as the parties who sold to the Dutch Government have not yet completed their purchases, but when the present engagements are fulfilled we must expect a reaction, as stocks, both in Turkey and in the consuming markets, are not only very heavy, but also the sowings for the coming crop have been carried out on a large scale, and if nothing occurs to injure the young plantations we must expect another large out-turn next year.

It is estimated that one-half of our crop has been disposed of, as will be seen by the following table:—

	Baskets or Cases
Arrivals in Smyrna to date of all descriptions	5,500
Arrivals in Constantinople to date	2,300
Arrivals in Salonica	450
Total	8,250
Baskets	
Sales in Smyrna to date	3,700
Sales in Constantinople	1,850
Sales in Salonica	450
Total	6,000
Stock unsold	2,250
Estimated stock in the producing districts	3,750
Remaining in Turkey	6,000

Messrs. A. M. ZIMMERMANN send us the following report on Continental drugs, dated December 12, 1881:—

Ess. Lemon.—Our prediction of last month was quickly fulfilled by a sudden rise of nearly 25 per cent. This sharp turn of the market was brought about by a more lively demand from New York for new fruit, and a corresponding improvement in price, which caused Sicilian shippers to send most energetically larger cargoes to the United States, thereby running prices of fruit up, which did not fail immediately to reflect upon the price of the essence. Intelligence received this day, however, reports the market as settling down momentarily, but in expectation of American orders for essence, which have yet to be placed.

Ess. Bergamot continues neglected.

Gentian Root promises to be very dear, as, according to reliable reports, only very little has this year been dug—by any means not sufficient to execute orders, which are beginning to arrive. There being no holders of old root, the price must considerably improve.

Italian Castor Oil remains steady, with a fair demand, as usual at this time of the year. A great deal of so-called Italian oil is nowadays manufactured from East Indian seed, and, although as white as much Italian, can be easily distinguished. Nevertheless, a great deal of this counterfeit finds its way to the London market.

Cod-liver Oil.—Stocks in Norway are exceedingly small now, and as the navigation may soon be expected to be closed, the demand for consumption will have to be met entirely by existing stocks.

Sulphate of Quinine is in a very peculiar position. The enormous accumulation of stocks of bark—larger, perhaps, than at any previous time—led speculators to expect very low prices for some time to come, and already indicated the great depreciation of bark or considerable decline in the price of quinine. However, a sudden large demand for the latter for the United States has changed the aspect of the quinine market, and by it the market for bark entirely. We see to-day the large quinine makers on the Continent sold out for the next three and four months, and so much engaged that they will be able to supply little, if indeed any at all, for the coming spring demand in this market; and it is a matter of certainty that prices will have to improve on the very first impulse given.

Monthly Statement of the Stocks of the following Drugs at the Port of London on November 30, 1881 and 1880.

	1881	1880		1881	1880
Aloes	3,503	3,152	Gum (cont.)—		
" kegs	1	5	Damar.... pkgs	3,036	3,629
" gourds	27	240	Galbanum....	30	4
Aniseed, Star chts	689	349	Gamboge....	168	166
Arrowroot ....cks	10,378	13,163	Guaiacum....	52	38
bx's & tins	8,203	10,104	Kino.....	19	36
Balsam....cks, &c.	2	85	Kowrie.....tns	833	651
Bark, Medicinal cks, &c.	961	946	Mastic....pkgs	126	131
srns, &c.	48,316	24,112	Myrrh, E.I.	229	139
Borax.....pkgs	638	427	Olibanum....	4,643	1,739
Bees' Wax ....bls & srns	677	990	Sandarac....	169	208
" cks & cs	1,483	2,036	Senegal.....tns	6	15
cakes	4	116	Tragacanth pkgs	1,414	1,650
Wax, Jap.vgtbl. pk	4,845	7,693	Ipecac....cks & bgs	206	145
Camphor ....pkgs	4,684	5,468	Jalap.....bls	164	237
Cardamoms ..cts	619	228	Nux Vomica pkgs	1,066	591
Cocc. Ind. bgs, &c.	717	887	Oil—		
Colombo root plgs	1,152	496	Castor .....cks	49	77
Cream Tartar....cks	74	105	"cs	4,911	6,614
Cubebz	93	93	Palm.....tns	279	746
Dragonsblood chts	197	135	Cocoanut....tns	11,621	5,668
Galls, E.I. cks & cs	3,944	1,164	Olive ..cks, &c.	1,719	387
M'terranean sks	647	545	Aniseed	84	258
			Cassia	498	305
Opium ..cts, &c.				1,887	1,109
Gum—			Shellac—		
Ammoniac pkgs	281	345	Orange...chits, &c.	1,079	621
Animi & Copal pkgs	5,228	1,933	Garnet....	692	560
Arabic, Barberry pkgs	2,450	1,706	Button....	5,325	2,957
Turkey .. "	1,993	1,712	Turmeric ..tns	2,285	2,738
E.I.....	2,952	2,273	Benjamin.....	46	114
Assafetida .. "	389	329	Vermilion		
Benjamin.. "	2,115	2,003			

Monthly Price Current.

The prices quoted in the following list are those actually obtained in Mincing Lane for articles sold in bulk. Our Retail Subscribers must not expect to purchase at these market prices, but they may draw from them useful conclusions respecting the prices at which articles are offered by the Wholesale Firms.

CHEMICALS.**ACIDS.**

	Last Month			This Month		
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Acetic.....per lb.	0 3½ to	0 0	0 3½ to	0 0	0 3½ to	0 0
ure....."	0 6 ..	0 9	0 6 ..	0 9	0 6 ..	0 9
glacial....."	0 11 ..	1 0	0 11 ..	1 0	0 11 ..	1 0
Benzoic Sublimate.....	6 0 ..	0 0	6 0 ..	0 0	6 0 ..	0 0
Ex. Gum ..per oz.	0 9 ..	0 0	0 9 ..	0 0	0 9 ..	0 0
Citric....."	2 0 ..	2 1	2 1½ ..	0 0	2 0 ..	0 0
Gallic....."	3 9 ..	0 0	3 0 ..	3 5	3 9 ..	0 0
Hydrochlor.....per cwt.	4 6 ..	7 6	4 6 ..	7 6	4 6 ..	7 6
Nitric.....per lb.	0 33 ..	0 4	0 3½ ..	0 4	0 33 ..	0 4
Oxalic....."	0 5½ ..	0 6	0 6 ..	0 0	0 5½ ..	0 0
Sulphuric....."	0 1 ..	0 0	0 1 ..	0 0	0 1 ..	0 0
Salicylic....."	7 0 ..	7 9	7 0 ..	9 6	7 0 ..	9 6
Tannic....."	1 6 ..	2 8	1 4 ..	2 5	1 6 ..	2 8
Tartaric, English....."	1 7 ¼ ..	0 0	1 8 ½ ..	0 0	1 7 ¼ ..	0 0
foreign .."	1 7 ½ ..	0 0	1 8 ..	1 8 ½	1 7 ½ ..	0 0
ANTIMONY, crude.....per cwt.	37 0 ..	0 0	37 0 ..	0 0	37 0 ..	0 0
star....."	53 0 ..	54 0	53 0 ..	54 0	53 0 ..	54 0
ARSENIC, lump....."	24 6 ..	0 0	24 6 ..	0 0	24 6 ..	0 0
powder....."	10 6 ..	10 9	10 6 ..	10 9	10 6 ..	10 9
BRIMSTONE, rough.....per ton	127 6 ..	137 6	127 6 ..	137 6	127 6 ..	137 6
roll.....per cwt.	8 9 ..	9 6	8 9 ..	9 6	8 9 ..	9 6
flour....."	10 9 ..	12 6	10 9 ..	12 6	10 9 ..	12 6
GLYCERINE, German.....						
refined....."	110 0 ..	135 0	129 0 ..	136 0	110 0 ..	135 0
crude brown....."	75 0 ..	95 0	75 0 ..	95 0	75 0 ..	95 0
Iodoform.....per lb.	0 0 ..	0 0	14 0 ..	14 3	0 0 ..	0 0
IODINE, dry.....per oz.	0 6 ..	0 0	0 6 ..	0 0	0 6 ..	0 0
resublimed .."	0 8 ..	0 0	0 8 ..	0 0	0 8 ..	0 0
MAGNESIA, calcined ..per lb.	1 0 ..	1 6	1 0 ..	1 6	1 0 ..	1 6
Hwds."	5 0 ..	0 0	5 0 ..	0 0	5 0 ..	0 0
MERCURY.....per hott.	127 6 ..	130 0	125 0 ..	0 0	127 6 ..	130 0
PRECIPITATE, red.....per lb.	3 1 ..	0 0	3 1 ..	0 0	3 1 ..	0 0
white .."	3 0 ..	0 0	3 0 ..	0 0	3 0 ..	0 0
PRUSSIAN BLUE....."	0 0 ..	0 0	0 0 ..	0 0	0 0 ..	0 0
SANTONINE....."	17 6 ..	0 0	15 9 ..	18 3	17 6 ..	0 0
SALICINE....."	12 0 ..	0 0	10 0 ..	0 0	12 0 ..	0 0
THYMOLE....."	24 0 ..	0 0	24 0 ..	0 0	24 0 ..	0 0
SALTS—						
Alum.....per ton	120 0 ..	125 0	120 0 ..	125 0	120 0 ..	125 0
powder .."	135 0 ..	140 0	135 0 ..	140 0	135 0 ..	140 0
Ammonia:						
Carbonate.....per lb.	0 6 ½ ..	0 6 ½	0 6 ½ ..	0 6 ½	0 6 ½ ..	0 6 ½
Hydrochlorate, crude,						
white ..per ton	600 0 ..	760 0	600 0 ..	760 0	600 0 ..	760 0
Sulphate....."	410 0 ..	430 0	410 0 ..	430 0	410 0 ..	430 0
Argol, Cape.....per cwt.	80 0 ..	98 0	80 0 ..	98 0	80 0 ..	98 0
Red....."	65 0 ..	80 0	65 0 ..	80 0	65 0 ..	80 0
Oporto, red .."	36 0 ..	36 6	36 0 ..	36 6	36 0 ..	36 6
Bleaching powder .."	5 0 ..	5 3	5 0 ..	5 3	5 0 ..	5 3
Borax, British refined .."	61 0 ..	62 0	61 0 ..	62 0	61 0 ..	62 0
Calomel.....per lb.	2 9 ..	0 0	2 9 ..	0 0	2 9 ..	0 0
Chloral hydrate, Saame's .."	4 2 ..	4 4	4 2 ..	4 4	4 2 ..	4 4
Liebreich's .."	5 6 ..	6 0	4 5 ..	4 7	5 6 ..	6 0
Copper:						
Sulphate.....per cwt.	20 0 ..	20 3	20 0 ..	20 6	20 0 ..	20 3
Coppars, green ..per ton	45 0 ..	0 0	45 0 ..	0 0	45 0 ..	0 0
Corrosive Sublimate ..per lb.	2 2 ..	0 0	2 2 ..	0 0	2 2 ..	0 0
Cream Tartar, French ..per cwt.	120 0 ..	121 0	121 0 ..	122 0	120 0 ..	121 0
brown .."	100 0 ..	0 0	102 6 ..	0 0	100 0 ..	0 0
Epsom Salts .."	4 0 ..	4 9	4 0 ..	4 9	4 0 ..	4 9
Glauber Salts .."	4 3 ..	5 3	4 3 ..	5 3	4 3 ..	5 3
Magnesia: Carbonate .."	42 6 ..	0 0	42 6 ..	0 0	42 6 ..	0 0
Fond, Hwds."	72 0 ..	0 0	72 0 ..	0 0	72 0 ..	0 0
Morphia Murias .."	6 9 ..	7 0	7 0 ..	0 0	6 9 ..	7 0
Phosphorus ..per lb.	1 11 ..	2 0	1 11 ..	2 0	1 11 ..	2 0
Potash:						
Bichromate .."	0 6 ..	0 0	0 6 ..	0 0	0 6 ..	0 0
Carbonate:						
Potashes, Canada,						
1st sort ..per cwt.	29 0 ..	0 0	29 6 ..	30 0	29 0 ..	0 0
Pearlashes, Canada,						
1st sort .."	36 0 ..	0 0	35 0 ..	0 0	36 0 ..	0 0
Chlorate ..per lb.	0 6 ..	0 0	0 6 ..	0 0	0 6 ..	0 0
Prussiate .."	0 10 ..	0 10½	0 10 ..	0 10½	0 10 ..	0 10½
red .."	1 10 ½ ..	0 0	1 10 ½ ..	0 0	1 10 ½ ..	0 0
Sulphate .."	9 0 ..	10 0	9 0 ..	10 6	9 0 ..	10 6
Potassium :						
Bromide .."	1 5 ..	1 6	1 5 ..	1 6	1 5 ..	1 6
Chloride ..per cwt.	9 0 ..	0 0	9 0 ..	0 0	9 0 ..	0 0
Iodide ..per lb.	7 9 ..	0 0	7 9 ..	8 0	7 9 ..	8 0
Quinine:						
Sulphate, British, in bottles ..per oz.	8 0 ..	0 0	8 0 ..	0 0	8 0 ..	0 0
Sulphate, French .."	8 6 ..	0 0	8 3 ..	0 0	8 6 ..	0 0
Sulphate, German .."	7 0 ..	0 0	7 0 ..	7 6	7 0 ..	7 6
Sal Acetos ..per lb.	0 7 ..	0 0	0 0 ..	8 ½ ..	0 0 ..	8 0
Sal Ammoniac, British per cwt.	44 0 ..	45 0	44 0 ..	45 0	44 0 ..	45 0
Saltspetre:						
Bengal, 6 per cent.						
or under .."	23 3 ..	23 6	23 3 ..	23 6	23 3 ..	23 6

	Saltspetre:—(cont.)			Last Month			This Month		
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Bengal, over 6 per cent.....per cwt.	22 3 ..	23 0	22 3 ..	23 0	22 3 ..	23 0	22 3 ..	23 0	22 3 ..
British, refined .."	28 0 ..	30 0	28 0 ..	30 0	28 0 ..	30 0	28 0 ..	30 0	28 0 ..
Soda: Bicarbonate .."	9 9 ..	10 0	9 6 ..	9 9	9 6 ..	9 9	9 6 ..	9 9	9 6 ..
Hwd's .."	45 0 ..	45 0	45 0 ..	45 0	45 0 ..	45 0	45 0 ..	45 0	45 0 ..
Carbonate:									
Soda Ash ..per deg	0 1 ½ ..	0 0	0 1 ½ ..	0 0	0 1 ½ ..	0 0	0 1 ½ ..	0 0	0 1 ½ ..
Soda Crystals ..per ton	63 9 ..	0 0	60 0 ..	0 0	60 0 ..	0 0	60 0 ..	0 0	60 0 ..
Caustic .."	9 9 ..	10 3	9 6 ..	10 0	9 6 ..	10 0	9 6 ..	10 0	9 6 ..
Hyposulphite ..per cwt.	8 0 ..	0 0	8 0 ..	0 0	8 0 ..	0 0	8 0 ..	0 0	8 0 ..
Nitrate .."	14 3 ..	14 6	14 3 ..	14 6	14 3 ..	14 6	14 3 ..	14 6	14 3 ..
Zinc Sulphate .."	12 0 ..	14 0	12 0 ..	14 0	12 0 ..	14 0	12 0 ..	14 0	12 0 ..
SUGAR OF LEAD, White .."	37 0 ..	0 0	37 0 ..	0 0	37 0 ..	0 0	37 0 ..	0 0	37 0 ..
Brown .."	26 0 ..	0 0	26 0 ..	0 0	26 0 ..	0 0	26 0 ..	0 0	26 0 ..
VERDIGRIS ..per lb.	0 8 ..	1 2	0 8 ..	1 2	0 8 ..	1 2	0 8 ..	1 2	0 8 ..
VERMILION, English .."	2 8 ..	0 0	2 5 ..	0 0	2 5 ..	0 0	2 5 ..	0 0	2 5 ..
China .."	2 6 ..	0 0	2 4 ..	0 0	2 4 ..	0 0	2 4 ..	0 0	2 4 ..
DRUGS.									
ALOES, Hepatic ..per cwt.	70 0 ..	140 0	70 0 ..	140 0	70 0 ..	140 0	70 0 ..	140 0	70 0 ..
Socotrine .."	55 0 ..	180 0	55 0 ..	180 0	55 0 ..	180 0	55 0 ..	180 0	55 0 ..
Cape, good .."	52 0 ..	56 0	48 0 ..	50 0	48 0 ..	50 0	48 0 ..	50 0	48 0 ..
Interior .."	49 0 ..	51 0	41 0 ..	47 6	41 0 ..	47 6	41 0 ..	47 6	41 0 ..
Barbadoes .."	45 0 ..	180 0	45 0 ..	180 0	45 0 ..	180 0	45 0 ..	180 0	45 0 ..
Curacao .."	54 0 ..	130 0	50 0 ..	140 0	50 0 ..	140 0	50 0 ..	140 0	50 0 ..
AMBERGOS, grey ..per oz.	100 0 ..	110 0	90 0 ..	105 0	90 0 ..	105 0	90 0 ..	105 0	90 0 ..
BALSAM.									
Canada ..per lb.	1 5 ..	0 0	1 5 ..	0 0	1 5 ..	0 0	1 5 ..	0 0	1 5 ..
Capivi .."	2 4 ..	2 6	2 4 ..	2 6	2 4 ..	2 6	2 4 ..	2 6	2 4 ..
Peru .."	10 0 ..	10 6	12 0 ..	13 0	12 0 ..	13 0	12 0 ..	13 0	12 0 ..
Tolu .."	2 9 ..	0 0	2 6 ..	0 0	2 6 ..	0 0	2 6 ..	0 0	2 6 ..
BARKS.									
Canella alba ..per cwt.	25 0 ..	26 6	21 0 ..	25 0	21 0 ..	25 0	21 0 ..	25 0	21 0 ..
Cascarilla .."	17 6 ..	19 0	18 0 ..	21 0	18 0 ..	21 0	18 0 ..	21 0	18 0 ..
CINCHONA.									
Peru, Crown and Gray ..per lb.	1 0 ..	2 9	1 0 ..	2 9	1 0 ..	2 9	1 0 ..	2 9	1 0 ..
Calisaya, flat .."	2 0 ..	6	2 0 ..	6	2 0 ..	6	2 0 ..	6	2 0 ..
" quill .."	2 6 ..	6 3	2 6 ..	6 3	2 6 ..	6 3	2 6 ..	6 3	2 6 ..
Carthagena .."	0 4 ..	2 11	0 5 ..	2 11	0 5 ..	2 11	0 5 ..	2 11	0 5 ..
Columbian .."	0 6 ..	3 3	0 6 ..	3 3	0 6 ..	3 3	0 6 ..	3 3	0 6 ..
Caprea .."	1 0 ..	2 4	0 11 ..	1 0 ..	1 0 ..	2 4	0 11 ..	1 0 ..	1 0 ..
New Granada .."	1 6 ..	5 0	1 6 ..	5 0	1 6 ..	5 0	1 6 ..	5 0	1 6 ..
Pitayo & Maracaibo .."	0 3 ..	2 3	0 4 ..	2 3	0 4 ..	2 3	0 4 ..	2 3	0 4 ..
Red .."	1 9 ..	10 6	1 9 ..	11 0	1 9 ..	11 0	1 9 ..	11 0	1 9 ..
East India .."	0 5 ..	2 0	0 4 ..	2 0	0 4 ..	2 0	0 4 ..	2 0	0 4 ..
" good & fine .."	2 1 ..	7 0	1 10 ..	1 10	1 10 ..	1 10	1 10 ..	1 10	1 10 ..
BUCHI LEAVES .."	0 2 ..	0 0	0 8 ..	0 0	0 8 ..	0 0	0 8 ..	0 0	0 8 ..
CAMPHOR, China ..per cwt.	87 6 ..	0 0	85 0 ..	0 0	85 0 ..	0 0	85 0 ..	0 0	85 0 ..
Japan .."	90 0 ..	0 0	87 6 ..	0 0	87 6 ..	0 0	87 6 ..	0 0	87 6 ..
Refin. Eng. ..per lb.	1 3 ½ ..	0 0	1 3 ½ ..	0 0	1 3 ½ ..	0 0	1 3 ½ ..	0 0	1 3 ½ ..
Tablets .."	1 4 ½ ..	0 0	1 4 ½ ..	0 0	1 4 ½ ..	0 0	1 4 ½ ..	0 0	1 4 ½ ..
CANTHARIDES, China .."	3 6 ..	0 0	3 9 ..	0 0	3 6 ..	0 0	3 9 ..	0 0	3 9 ..
" Russian .."	3 6 ..	0 0	3 9 ..	0 0	3 6 ..	0 0	3 9 ..	0 0	3 9 ..
CHAMOMILE FLOWERS ..per cwt.	25 0 ..	0 0	25 0 ..	0 0	25 0 ..	0 0	25 0 ..	0 0	25 0 ..
CASTOREUM ..per lb.	25 0 ..	0 0	35 0 ..	0 0	35 0 ..	0 0	35 0 ..	0 0	35 0 ..
DRAGON'S BLOOD, Ip ..per cwt.	80 0 ..	0 0	260 0 ..	0 0	75 0 ..	0 0	270 0 ..	0 0	270 0 ..
ERGOT OF RYE ..per lb.	0 0 ..	0 0	0 0 ..	0 0	75 0 ..	0 0			

		Last Month		This Month				Last Month		This Month			
		s. d.	s. d.	s. d.	s. d.			£ s.	£ s.	£ s.	£ s.		
Essential Oils:													
Almond	per lb.	30	0	to	0	0	30	0	to	0	0		
Anise-seed, star	"	8	6	..	9	0	8	3	..	0	0		
" German	"	10	6	..	0	10	6	..	0	0	0		
Bergamot	"	9	0	..	10	0	9	0	..	10	0		
Cajeput	per bott.	3	4	..	4	0	3	4	..	4	0		
Caraway	per lb.	3	0	..	6	6	3	0	..	6	6		
Cassia	"	4	3	..	4	6	4	3	..	4	6		
Cinnamon	per oz.	5	6	..	0	5	6	..	0	0	0		
Cinnamon-leaf	"	0	24	..	0	22	0	21	..	0	23		
Citronelle	"	0	3	..	0	0	0	21	..	0	0		
Clove	"	6	6	..	6	9	6	6	..	6	9		
Lavender, Exotic	per lb.	2	2	..	8	2	2	2	..	8	2		
" Mitcham	"	130	0	..	0	130	0	..	0	0	0		
Lemon	"	6	0	..	7	0	7	0	..	9	0		
Lemongrass	per oz.	0	25	..	0	0	0	25	..	0	0		
Neroli	"	6	6	..	9	6	6	6	..	9	6		
Nutmeg	"	0	51	..	0	0	42	..	0	0	0		
Orange	per lb.	7	3	..	11	3	7	3	..	11	3		
Otto of Roses	per oz.	10	0	..	25	3	10	0	..	25	3		
Patchouli	"	2	0	..	4	1	2	0	..	4	1		
Peppermint :													
American	per lb.	13	0	..	0	0	13	3	..	0	0		
(H. G. Hotchkiss)	"	14	0	..	0	0	14	3	..	0	0		
English	"	24	0	..	25	0	24	0	..	25	0		
German	"	13	9	..	0	0	13	9	..	0	0		
Japan	"	8	6	..	10	0	8	6	..	10	0		
Rosemary	"	1	6	..	2	11	1	6	..	2	11		
Sassafras	"	3	0	..	0	0	3	0	..	0	0		
Spearmint	"	10	0	..	11	0	10	0	..	11	0		
Thyme	"	1	9	..	4	2	1	9	..	4	2		
Mace, expressed	per oz.	0	2	..	0	3	0	2	..	0	3		
OPIUM, Turkey	per lb.	14	0	..	15	0	13	0	..	15	6		
" inferior	"	8	0	..	12	0	8	0	..	12	0		
QUASSIA (bitter wood)	per ton	80	0	..	100	0	80	0	..	100	0		
RHUBARE, China, good and fine	per lb.	3	0	..	4	3	2	9	..	4	0		
" Middling to fair	"	1	4	..	2	11	1	4	..	2	8		
" Ordinary	"	0	9	..	1	3	0	9	..	1	3		
ROOTS—Calumba	per cwt.	21	6	..	29	0	20	0	..	27	0		
China	"	20	0	..	24	0	22	0	..	24	0		
Cibretta	per lb.	0	10	..	1	0	0	10	..	1	0		
Cus-Cus	per cwt.	10	0	..	13	0	10	0	..	13	0		
Galangal	"	21	0	..	22	0	21	0	..	22	0		
Gentian	"	19	0	..	21	0	19	0	..	21	0		
Orris	"	40	0	..	75	0	25	0	..	70	0		
Pellitory	"	42	0	..	60	0	42	0	..	60	0		
Pink	per lb.	0	8	..	1	3	0	8	..	1	3		
Rhatany	"	0	5	..	0	6	0	5	..	0	6		
Seneka	"	3	0	..	0	2	9	3	..	3	0		
Snake	"	1	8	..	1	10	1	8	..	1	10		
SAFFRON, Valencia	"	48	0	..	52	0	45	0	..	50	0		
SALEP	per cwt.	100	0	..	130	0	100	0	..	130	0		
SARSAAPARILLA, Lima	per lb.	0	5	..	0	6	0	5	..	0	6		
Gnayaquil	"	1	5	..	1	6	1	4	..	1	6		
Honduras	"	1	5	..	2	0	1	7	..	1	9		
Jamaica	"	1	6	..	1	9	1	7	..	1	9		
SASSAFRAS	per cwt.	0	0	..	0	0	0	0	..	0	0		
SCAMMONY, Virgin	per lb.	35	0	..	40	0	35	0	..	40	0		
second and ordinary	"	10	0	..	30	0	10	0	..	30	0		
SENNNA, Bombay	"	0	1	..	0	3	0	1	..	0	3		
Tinnevelly	"	0	1	..	1	3	0	1	..	1	2		
Alexandria	"	0	2	..	2	3	0	2	..	2	3		
SPERMACETI, refined	"	1	0	..	0	0	10	0	..	1	0		
American	"	0	9	..	0	10	0	9	..	0	10		
SQUILLS	"	0	1	..	0	2	0	1	..	0	1		
GUMS.													
AMMONIACI, drop	per cwt.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.		
ANINI, fine washed	"	1	10	..	2	5	1	10	..	2	5		
" sorts	"	17	0	..	18	10	17	0	..	18	10		
ARABIC, pale picked	"	10	0	..	15	0	10	0	..	15	0		
" sorts, mid. to fine	"	1	15	..	2	12	6	1	15	..	2	12	6
TURKEY, pick. gd. to fin.	"	1	10	..	1	13	1	10	..	1	13		
" second & inferior	"	6	0	..	9	10	6	0	..	9	10		
" sorts	"	2	10	..	5	10	2	10	..	5	10		
ASSAFETIDA, cm. to fin.	"	2	0	..	2	10	2	0	..	2	10		
BENJAMIN, 1st & 2nd.....	"	0	15	..	2	10	0	15	..	2	10		
COPAL, Manilla	"	10	0	..	24	0	10	0	..	24	0		
Angola, red	"	18	0	..	79	0	18	0	..	79	0		
DAMMAR pale	"	150	0	..	155	0	150	0	..	155	0		
EUPHORBIUM	"	70	0	..	87	6	70	0	..	87	6		
GALBANUM	per lb.	21	0	..	38	0	21	0	..	38	0		
GAMBoge, picked pipe	per cwt.	252	6	..	340	0	260	0	..	335	0		
GUAIACUM	per lb.	6	9	..	2	0	0	9	..	2	0		
KINO	per cwt.	57	0	..	105	0	57	0	..	105	0		
KOWRIE, sorts	"	50	0	..	60	0	50	0	..	60	0		
" selected	"	15	0	..	210	0	105	0	..	210	0		
MASTIC, picked	per lb.	2	6	..	4	0	2	6	..	4	0		
MYRRH, good and fine	per cwt.	182	6	..	200	0	182	6	..	200	0		
" ordinary & fair	"	70	0	..	180	0	70	0	..	180	0		
OLIBANUM, p. drop	"	52	0	..	56	0	51	0	..	55	0		
" amber & yellow	"	37	0	..	51	0	37	0	..	50	0		
SENEGAL	"	35	0	..	45	0	35	0	..	45	0		
SANDARAC	"	120	0	..	135	0	115	0	..	130	0		
SHELLAC, Orange	"	152	6	..	157	6	140	0	..	150	0		
" Liver	"	117	6	..	137	6	102	6	..	132	6		
THUS	"	0	0	..	0	0	0	0	..	0	0		
TRAGACANTH, leaf	"	280	0	..	400	0	280	0	..	400	0		
" in sorts	"	40	0	..	270	0	40	0	..	270	0		
OILS.													
SEAL, pale	per tun	28	0	..	29	0	28	10	..	0	0		
" yellow to tinged	"	26	10	..	27	10	25	10	..	27	10		
" brown	"	24	0	..	26	10	24	0	..	26	10		
Oils, continued:—													
SPPFM	"	70	0	..	0	0	0	0	..	70	0		
SPERM BODY	per tun	0	0	..	0	0	0	0	..	0	0		
COD	"	30	0	..	0	0	0	0	..	30	0		
WHALE, South Sea, pale	"	28	0	..	29	0	28	0	..	29	0		
" yellow	"	27	0	..	23	0	27	10	..	27	10		
" brown	"	21	0	..	23	0	21	0	..	23	0		
East India, Fish	"	42	0	..	0	0	0	0	..	0	0		
OLIVE, Seville	per ton	42	0	..	0	0	0	0	..	42	0		
Gioja	"	0	0	..	0	0	0	0	..	0	0		
Levant	"	39	0	..	0	0	0	0	..	39	0		
Mogador	"	37	10	..	0	0	0	0	..	37	10		
Spanish	"	42	0	..	42	10	41	10	..	42	10		
Sicily	"	0	0	..	0	0	0	0	..	0	0		
COCOANUT, Cochin	"	30	10	..	31	0	30	0	..	30	0		
Ceylon	"	27	10	..	28	10	26	10	..	27	10		
Mauritius	"	28	10	..	28	15	27	0	..	27	10		
GROUND NUT AND GINGELLY:													
Bombay	"	0	0	..	0	0	0	0	..	0	0		
Madras	"	0	0	..	0	0	0	0	..	0	0		
PALM, fine	"	33	0	..	0	0	0	0	..	33	0		
LINSEED	"	25	12	/	6	..	26	0	..	25	12	/	
RAPESEED, English, pale	"	31	5	..	31	10	31	0	..	31	0		
brown	"	29	5	..	29	7	26	0	..	29	0		
COTTONSEED	"	28	0	..	28	10	26	0	..	28	10		
LARD	"	62	0	..	63	0	62	0	..	63	0		
TALLOW	"	26	10	..	45	0	26	10	..	45	0		
SEEDS.													
CANARY	per qr.	50	0	..	75	0	50	0	..	75	0		
CARAWAY, English	per cwt.	0	0	..	0	0	0	0	..	0	0		
German, &c.	"	28	0	..	30	0	28	0	..	30	0		
CORIANDER	"	16	0	..	24	0	16	0	..	24	0		
HEMP	per qr.	29	0	..	30	0	29	0	..	30	0		
LINSEED, English	"	0	0	..	0	0	0	0	..	0	0		
Black Sea & Azof	"	49	0	..	0	0	47	0	..	0	0		
Calcutta	"	51	0	..	0	0	47	3	..	0	0		
Bombay	"	52	0	..	0	0	49	6	..	0	0		
St. Petersburg	"	46	0	..	47	0	45	0	..	46	0		
Mustard, brown	per bshl.	0	0	..	0	0	0	0	..	0	0		
white	"	5	0	..	10	0	5	0	..	10	0		
POPPY, East India	per qr.	47	0	..	0	0	46	0	..	0	0		
SPICES.													
CASSIA LIGNEA	per cwt.	40	0	..</									



THE INTERNATIONAL PHARMACEUTICAL CONGRESS.

We have received the following from one of the recognised leaders of British pharmacy. We are sorry that the letter has to be published anonymously, but we believe the signature chosen is appropriate, inasmuch as the regret is general among the pharmacists of this country that the French delegates to the Congress should have had reason to look back on their visit with dissatisfaction and annoyance.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—It is much to be regretted that the recent International Pharmaceutical Congress should have wound up so infelicitously, and that the heartburnings then excited should have culminated in a wordy war between the advocates of the respective ideas of restricted and of complete pharmacopœial reform, in which, as far as concerns French and German, the usual courtesies were not observed.

I think that most pharmacists will feel sorry that the editor of the *Pharmaceutical Journal* should have thought it his duty to reproduce in his columns one extreme instance of rudeness on the part of a writer in the *Pharmaceutische Zeitung*, where the well-known *mot* of Napoleon (incorrectly quoted by-the-by) about the Russian serape, has been modified in a way highly offensive to French *amour propre*.

The grossness of the abuse almost tempts one to retaliate by substituting "Editor" for "Russe," and "cad" for "polisson," but that you know would be, if possible, even more untrue.

Opinions will, I suppose, continue to differ as to the treatment the French proposals received at the hands of the London Congress. For my part I consider they were treated with scant courtesy, and without due recognition of the enormous labour bestowed by French pharmacists on their "Projet de Pharmacopœie Internationale."

Whilst British pharmacists generally approve of the decisions of the Congress as regards the International Pharmacopœia, they would, I believe like to put on record how thoroughly contrary to good taste and to their opinions are the scurrilous diatribes of the *Pharmaceutische Zeitung* as reproduced in the columns of your contemporary.

BRITISH PHARMACY.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—As one of the participants in the recent International Pharmaceutical Congress, I feel it due and proper, in view of criticisms published in the *Journal de Pharmacie et de Chimie*, in the *Reportoire de Pharmacie*, and in *THE CHEMIST AND DRUGGIST* of October 15, to offer a few words of comment.

In regard to the merits or demerits of the Congress, and to the charges made in connection with the subject of the International Pharmacopœia and the actions of the Pharmacopœia Committees of the recent and of former Congresses, I must leave a rejoinder to more qualified pens nearer home, and confine myself solely to the insinuations of want of impartial courtesy and the alleged existence of a clique, or an "Anglo-German League," at the recent Convention in London.

As an American, and fully sharing American views and interests, living at a distance on neutral ground, with friendly feelings towards all, I may be the more justified in so doing, as I have been an altogether independent attendant and an unbiased close observer, whose judgment is not impaired or influenced by any personal or national prejudice, and who, not having accepted any representation as a delegate, was present at the Congress, like Dr. De Vrij and some other gentlemen, solely by invitation, through the courtesy and consideration of the Council of the Pharmaceutical Society of Great Britain. It was my privilege to attend all the meetings and friendly gatherings connected with the Congress inside and outside of Bloomsbury Square, and, in justice to truth, I do not hesitate to state that, to my observation and best knowledge, no cause or pretext for any complaint of want of consideration, or of the existence of any clique whatever at any time or meeting, was apparent during our stay in London; and I very much doubt whether anyone else, except those complainants, has noticed anything whatever of the kind between anyone or any set, either of hosts or guests. The intercourse between all the gentlemen who joined in the meetings and social gatherings was throughout thoroughly harmonious and unreserved, and was characterised by uniform courtesy and sincere good faith, which could not but be largely strengthened by the very cordial and kind reception impartially extended to all participants by their British colleagues. These, as well as the gentlemen who so ably represented German pharmacy, were, to every fair-minded observer, far above any such suspicion. If any wrong was done to anyone, either by omission or commission, I believe it to have been purely from oversight.

In regard to the charge of "a midnight meeting," I deem it but just to state that the idea and proposition of a preliminary exchange of views on the main objects of the Convention, especially on the feasibility of an international conformity in all potent Pharmacopœial preparations,

originated with and was advocated by the undersigned, as Mr. Martenson, Mr. Dittrich, Dr. Schaebt, and others know. Such a course was certainly legitimate and expedient, and a late hour the only time available for that and other social gatherings, in order to save time and avoid unprofitable discussions, as well as to bear, sift, and, if possible, harmonise the views of the delegates who, coming from various countries, had the true interests and objects and the success of the Congress at heart, beyond any personal or national bias. This gathering, like others, was informal and altogether extemporaneous, open to everyone for candid exchange of views and for unrestricted discussion, and was held in one of the public rooms in the main hall of the Inns of Court Hotel, where most of the delegates and visitors, the French ones included, had their lodgings. At most of these social gatherings it was a matter of courtesy and convenience in general discussions to use that language which was spoken or understood by the majority present; and, as most of the foreign delegates fairly understood both English and French, but were more conversant with the German language, which was also more or less familiar to a number of the English gentlemen, next to the English the German language, as the one most generally understood, was frequently and inadvertently used in the conversational discussions. If the French-speaking delegates, who professedly were conversant only with their own tongue, preferred, notwithstanding their comparatively large number, to remain in the minority by their absence at any of the social gatherings, it seems but fair on their part to lay any consequent shortcomings at their own door.

In conclusion, I can only repeat that there certainly was no trace of any pre-arranged understanding between English and German delegates, nor any unfriendly or antagonistic sentiment toward anyone, among either hosts or guests, apparent during our two weeks' stay and constant friendly intercourse in London. Any dissonance was actually excluded by the excellent organisation of all the local arrangements, and, moreover, by the sincerely cordial and courteous reception extended with exquisite taste by their British colleagues to everyone present; and I for one—and, I am sure, everyone else except those few discontented gentlemen who indulge in these post-testem strictures—cannot but endorse with unqualified satisfaction Dr. Bruunengräber's sentiments in his presidential address at Heidelberg, as well as the concurrent expressions of the various speakers at the complimentary banquet in Willis' Rooms, St. James', August 2, 1881.

Very truly yours,

FRED. HOFFMANN.

November 1.

We have received a long report of the Congress, occupying 60 octavo pages, from M. Martenson, one of the Russian delegates. The author not only gives very full details of the papers and discussions, but in numerous paragraphs throughout his report manifests a generous appreciation of the English efforts to entertain their guests. The "Toastmaster" at the dinner seems to have specially struck M. Martenson's fancy.

The *Moniteur de la Pharmacie Belge*, reporting the London Pharmaceutical Congress, comments very unfavourably on its scientific character. Many of the communications and speeches, it says, contained only commonplace and things said a hundred times before. More than that the discussions were badly directed, and sometimes there ruled a confusion which rendered doubtful what resolution had been carried. The journal also comments at length on the disrespect shown to the French delegates and to the Société de Pharmacie de Paris, in the same spirit as that in which M. Méhu has written. The report, however, concludes with a most cordial recognition of the hospitality shown to the delegates, and which "will leave long and agreeable memories in the minds of all who shared in it, and will still further increase abroad the reputation, already so great, of the English nation."

We also have to acknowledge receipt of a report of the Congress in the *Pharmaceutisk Tidsskrift*, of Stockholm.

THE MAJOR EXAMINATION.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—Season after season, year after year, we are afflicted with this miserable whine about the unfairness of pharmaceutical examinations. These piteous bewailings and lamentations come quite regularly, as a sort of Christmas Annual, and, like the annuals, vary somewhat in their title, but have much sameness and monotony in their tenor. "Impeachment of the House of Bloomsbury" is decidedly novel in style, but, "like a tale that is told," it is the same old tune, on the same old string.

Mr. Editor, permit me to protest against "Vigilans'" communication, as being objectionable in tone, displaying manifest animus, petulant, and dreadfully incorrect.

To sum up this extraordinary indictment, "The best candidates are rejected, while duffers, to their own immense astonishment," are allowed to pass. The system of examination requires "re-modelling," being "unfair," "unequal," and iniquitous; the examiners themselves are "capricious," and many of them ill-tempered; each has his own particular "standard," which differs from everybody else's; and, to crown all, "Vigilans" deliberately insinuates that candidates are rejected in order to augment the fees and funds of the Society, by compelling them to present themselves before the Board a second time.

This is "impeachment" with a vengeance, and appalling enough in all conscience, if true, but there's the rub—it isn't; at least we gather nothing

of this from the periodical reports of Drs. Greenhow and Maelagan; on the contrary, they have stated repeatedly that the examinations are ably and impartially conducted, and well calculated to test the fitness of candidates desirous of registration.

In possession of such independent and authoritative testimony, we can afford to disregard "Vigilans," and his wild assertions to the contrary, especially when such testimony is in exact accordance with one's own experience.

The examiners are the picked men of pharmacy, and fully capable of fulfilling the onerous and not overpaid duties imposed upon them. Further, they are gentlemen, and as such know how to retain their temper, and are certainly too generous and reasonable to take advantage of a little nervousness, or even a little stupidity. What "Vigilans" is pleased to term "nervousness" is more frequently synonymous with native humbug rather than modesty. This "nervous" excuse for mental deficiency is perfectly ridiculous, and not to be tolerated, but if a candidate is so "knocked over" as to be unable to answer proper questions, put, as they undoubtedly are put, in a proper manner, for goodness sake let the trembling tyro give up pharmacy, and turn milliner.

If your encyclopaedic correspondent could see his way clear to stimulating his astonishingly-numerous "Major acquaintance" to renew their endeavours, to work harder and harder, to improve their system (and, some of them) to pay less attention to their hillard eues, and more to their test-tubes, he would be doing greater service to pharmacy than by persuading would-be candidates that the examination is "unfair," and the examiners "capricious." At any rate no good can come of the "mud-throwing process" "Vigilans" has essayed.

"Hard words break no bones," but to describe the Pharmaceutical Society and its examiners as a body of men "fattened" on the fees of an iniquitous system is outstepping the bounds of fair criticism, and is as untrue as it is ungentlemanly.

"Vigilans" exercises his imagination so irresponsibly and so vigorously as to suggest the newspaper correspondent rather than a disciple of the pestle and mortar, and avowedly anticipates that clamorous efforts will be made to "name" him. "Vigilans" himself, it appears, has not escaped the dire effects of "native modesty," and tearfully relies on "your well-known honour" to keep it dark. Mr. Editor, I will not seek to increase this terrible strain on your prophyt, but venture to subscribe myself

Yours timidly,

J. RYMER YOUNG.

Warrington, November 28.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—The ample space accorded to "Vigilans" in your last issue encourages me to hope that you will afford me the opportunity of replying, however feebly, to his letter.

From the invidious tone of his remarks I infer that he was one of the five candidates of average ability who were "plucked" at the Major examination of which he complains, and, moreover, his perfect acquaintance with the method of conducting the examinations by both the London and Edinburgh boards would lead one to suppose that this was not the first occasion on which he has met a like fate.

If these surmises be correct the *raison d'être* of his letter will require very little fathoming. Every one knows the rejected candidate's device of turning round and abusing both examiners and the examinations. I refer, more particularly, to the meaner class of "plucked" ones, who fail also to see that the fault lies with themselves rather than with the examinations.

Surely the examiners are more competent to judge of the quantity of work that may reasonably be required of each candidate than either "Vigilans" or his friends.

There are two points especially to which I must call "Vigilans'" attention, as he seems to have overlooked them entirely.

Firstly, that the fact of having studied with a teacher—I suppose he means "crammer"—of "acknowledged talent" does not of itself constitute a right of passing the examination.

And, secondly, that the fact of passing the Major examination should be, in most instances, a guarantee of the possession of rather more than "average ability."

The culminating point of meanness—I might almost say of indecency—is reached in the last two paragraphs of "Vigilans'" letter, where he accuses the examiners—"men reuced fat by iniquitous fees" as he calls them—of passing the regulation regarding text books and notes, in order that a larger number of candidates may be plucked at each "exam.," and so the examination fees kept up.

The knowledge that "Vigilans" would otherwise impugn my letter was written for the purpose of obtaining favour in the eyes of the gentlemen he has maligned—for I have still the Major ordeal to undergo—and my only excuse for signing myself

Yours faithfully,

E. G. B. P.

3,220. *Subscriber* (Newcastle-on-Tyne).—You will find particulars respecting the curriculum, fees, &c., for the licensee of Apothecaries' Hall, and of all other British medical qualifications, in our last September number. The Preliminary examination is somewhat similar to that of the Pharmaceutical Society, but the latter is not accepted in lieu of it.

THE CANADIAN EXAMINATIONS.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—In an interesting *résumé* of the state of colonial pharmacy, published in your Educational Number of September last, you mention that you are unaware whether the Ontario College of Pharmacy accepts the diploma of the British Society, for registration in the Province, or not.

In reference to this subject Mr. Geo. Hodgetts, of Yonge Street, Toronto—who, I understand, is the Registrar or Secretary of the College—informs me that our licensee is not recognised by the College, and that, consequently, all persons opening pharmacies in the Province are compelled to pass the necessary examination; he adds that they have no Minor examination.

Knowing that any scraps of information having reference to his future home are gladly welcomed by the intending emigrant, I have considered that no apology was necessary in requesting you to favour me by inserting this note, and beg to remain,

Yours faithfully,

Eldon Grove, Rockferry, Cheshire,
November 26.

J. E. SAUL. (220/24.)

AMERICAN COMPRESSED REMEDIES.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—We have observed the letter of your correspondents, Messrs. M. Rogerson & Son, in your last issue, and would point out that the idea of compressing pills or tablets, by whichever name they may be called, was originated by the late Professor Brockdon, the manufacturer of compressed Cumberland leads for lead pencils. He introduced, about 20 years or more since, Brockdon's compressed potash and soda, which have ever since been in sale both in this country and in America. In 1871 we purchased Professor Brockdon's interest in these preparations, and they are still well known at home and abroad. As to "elbowing out the intruder," it may interest your correspondents to know that we have, since the introduction of the American compressed goods, remarked with satisfaction a steady increase in the demand for the Brockdons already referred to, and this increase applies as well to the foreign as to the home markets. The monopoly must, therefore, exist more in imagination than in reality.

We are, sir, yours faithfully,

1 King Edward Street, Newgate Street,
London, E.C., November 29.

F. NEWBERRY & SON.

(220,55.)

POISONOUS PATENT MEDICINES.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—After the lamentable death of one of our magistrates from poisoning by "Hunter's solution of hydrate of chloral," is it not high time the sale of such (so-called) "patent medicines" containing poison and sold by any grocer or haker who pays 5s. for a licensee was put a stop to?

A short time ago amongst a lot of homœopathic preparations (which I purchased through your Exchange Column) I found a small bottle (1/2 oz.) containing "genuine black drop," and put up under the protection of a 1/2 d. stamp, with no notice as to it being poison, although at the bottom of the label, in small type, were the words, "One drop equal to four of laudanum." Now can this be fair to the trade which is compelled by the Pharmacy Act to label even a 1/2 oz. of paregoric "Poison," while these black drops are sold by any one without any restriction except the 1/2 d. stamp and a yearly 5s. licence, although acknowledged by the proprietor to be four times the strength of laudanum? And these very "black drops" are put up hearing the name of one of our leading firms of London chemists.

Now I hope, sir, you will do me the favour of publishing this letter, and it may be the cause of stirring up both the trade and the public against all poisons sold under the protection of a medicine stamp.

Yours truly,

FAIR PLAY.

December 3.

221/4. F.—**Polishing Electroplated Goods.**—To obtain a uniform deposit use several anodes, arrange them so as to make the distance between them and all parts of the object nearly alike, and place them as far off the latter as possible, so as to minimise errors. After being scratch-brushed, plated articles are "buffed" by being held against revolving wheels, covered with cloth, or made of cloth discs pressed together, with rouge rubbed on for a polishing material. This is all that is necessary usually. It requires a fly-wheel and treadle, and is scarcely likely to pay on a small scale. An extra polish is given to prominent parts of the articles by means of a polished steel or agate burrisher. You would be unable to do this without long practice. By using a "bright" solution you will deposit your metal so that it will not need polishing, but you will find it exceedingly difficult to manage. To prepare this take a quart of the ordinary double cyanide of silver solution, add to it 4 ounces of liquid ammonia, 2 of ether and 4 of bisulphide of carbon. Add a few drops of this to every gallon of your solution before you use it.

220/34. *Assistant* (Nottingham).—Formulae for starch glosses will be found at pages 113, 231, 248, and 488 of THE CHEMIST AND DRUGGIST for the present year.

Paint Trade.—Putty, patent driers, and zinc paints should never be covered with water to preserve them. A thin film of raw linseed oil will protect them from change.

IMPORTANT MATTERS.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—In your correspondent's letter on the above he says that the Pharmaceutical Society ought to prosecute in every case where the law is violated and set at defiance by unregistered men.

May I ask "An Old Chemist" what he thinks the Society ought to do to the registered men who set the law at defiance? I refer to registered chemists and druggists who allow their names to be used by unqualified men, they themselves having no interest whatever in the business.

Yours, &c.,

MINOR. (38/219.)

[The cases alluded to by "Minor" may or may not be important, but he does not say in what respect registered men who lend their names "set the law at defiance," nor under what Act or clause of an Act they could be prosecuted.—ED. C. & D.]

Soluble Bougies.—*Viridis* (II/88) has experienced difficulty in this direction. Brunstead on "Venereal Diseases" recommends mercurial bougies containing—

Ung. hyd. fort.	..	..	..	..	..	5ij.
Cera alba	..	..	..	..	..	5ij.

Finding that proportion insoluble at natural temperature, he substituted oil. theobroma for a portion of the wax, and found that—

Oil. theobroma	..	..	..	..	..	3v.
Cera alba	..	..	..	..	..	3j.
Ung. hyd. fort.	..	..	..	..	..	3ij.

would just suffice to make bougies soft enough to melt in use and barely hard enough to work with his mould. When softer, on separating the halves of the mould, the bougies stick to the mould.

Again, wishing to make bougies each to contain bismuthi subnit. gr. x., he used simply oil. theobroma, but found that quite unworkable, and only succeeded after the addition of some cera alba and oil. olive. In each case he stood the mould in cold water before attempting separation. Lastly, he melted down some of the long iodoform bougies made, he believes, by Maw, ran them into the mould, and attempted to turn them out complete, usual size, but again failed until after adding wax. He wants to turn out bougies of minimum hardness with minimum trouble, and to know the best basis for them.

First let "Viridis" read the article on "Pessaries and Suppositories" in THE CHEMIST AND DRUGGIST, Aug., 1877 (reprinted in THE C. & D. DIARY, 1880). The same principles apply to bougies as to suppository making. The main point to be observed is the temperature at which the ingredients are poured into the mould. This should be done just before the mass begins to thicken—the nearer the thickening-point the better. If the mass is poured in while the temperature is much above this point the bougies will almost certainly break on unscrewing the mould. If this is attended to, and the bougies still break on opening the mould, the cause can only be explained (1) by the mould being opened before the mass has thoroughly set, (2) by the mould not having been thoroughly clean and polished before using, or (3) some unsuitability in the base used for the bougies. It is of great advantage to polish the mould before using with a soft piece of chamois skin, and care should be taken to breathe into the mould immediately before pouring in the mass, so as to cause a thin film of vapour to adhere to the sides. Some substances, such as bismuth, bite the mould. In such cases a thin film of glycerine, instead of the moisture, is useful, the mould being simply greased with the glycerine. As regards a base for bougies, no rule can be laid down, every case having to be judged very much on its own merits, but we find oil. of theobroma suitable in almost every case. If the other ingredients tend to make the theobroma too soft, a little wax may be added; if too hard, a little oil or lard. Obviously 6 parts white wax to 2 parts mercurial ointment would make a bougie quite insoluble at ordinary temperature, but 6 parts oil. of theobroma and 2 parts mercurial ointment make one in every way suitable. Should, however, the melting-point of this composition be considered too low, the following will probably suit, as it raises the melting-point from 8° to 10°:—

	Parts
Mercurial ointment	.. .. .. .. 2
White wax and lard, of each	.. .. .. I
Oil. of theobroma	.. .. .. .. 4

If the bismuth bougies, in the proportions of 2 parts of bismuth to 4 parts theobroma, give too high a melting-point, 1 part lard added will lower it considerably.

The "long iodoform bougies" refer, we presume, to Cheyne's formula, of 5 grains iodoform and 10 minimis eucalyptus oil in each cylinder. We have repeatedly put these proportions into the smaller bougies (2½ inches), and have experienced no difficulty in doing so. The following proportions we have found suitable, the melting-point of the mixture ranging from 105° to 110°:—

	Parts
Iodoform.	.. .. .. .. 5
Oil. of eucalyptus	.. .. .. .. 10
Theobroma and white wax, of each	.. .. 5

Triturate the iodoform with the eucalyptus oil, and add to the melted wax and theobroma immediately before pouring into the moulds.

A CAUTION.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—Kindly permit me, through your journal, to sound a note of warning to the profession in regard to their labels.

I have been informed by the authorities at Somerset House that the accompanying labels render the articles on which they are placed liable to stamp duty. The ointments are not patent or proprietary medicines, only things sold in the ordinary way, that is, in 1d. and 2d. boxes, and you will see that the labels contain no directions for use, no recommendation for any particular complaint, nor is any occult secret in their manufacture expressed.

The patent medicine stamp duty is aumbrous obstacle to progress, which seriously batters the trade and public alike, and one of the worst things druggists ever did was to oppose the laudable efforts of the Pharmaceutical Society, when, in 1870, the Society made a movement in the way of shifting the nuisance.

I am, yours truly,

F. SAUNDERS.

[The labels, copies of which Mr. Saunders encloses, are three in number. One is "Saunders' genuine marshmallow ointment for all healing purposes." This claims a proprietary right in the ointment, and for that reason renders the preparation liable to stamp duty. The other labels do not claim any exclusive right of preparation. One is a "family ointment, for general healing purposes," the other is an "Indian erate, one of the most popular remedies of the day," &c. It was not, perhaps, previously understood that general allusions to healing properties on the label constituted recommending as beneficial for any ailment, &c., within the meaning of the Act. For this information the trade is indebted to Mr. Saunders.]

220/27. A. J. wants the formula of *Fleur de Lage*, a skin cosmetic. We have never met with it.

93/9. Major.—**Cleaning Sponges.**—See our May number, page 198, and answer to 222/55, on page 557.

220/32. D.S.—Vaseline pomade and ointment are specialities belonging to the Chesebrough Manufacturing Company, and their composition is necessarily a secret. We do not know that they consist of anything besides pure vaseline, with perhaps a little perfume in the first case.

Welshman (51/221) asks how to mix the following hair-wash so as to form a creamy emulsion:—

Oil. amygdal.	..	..	..	..	..	..	5j.
Liq. ammon. fort.	..	..	..	..	..	..	3j.
Sp. rosmar.	..	..	..	..	..	..	3vj.
Aqua mellis	..	..	..	..	..	..	5ij.

The ingredients of this hair-wash may be mixed in any order without causing an appreciable difference in the appearance of the mixture. As written the ingredients will not make a proper emulsion, and to speculate as to what might be added to make it a "creamy emulsion" would, we think, be both unsatisfactory and improper. We may, however, point out to "Welshman" that there is no recognised formula for aqu. mellis. It is generally understood to be an alcoholic solution of various essential oils, similar to lavender water or eau de Cologne; but, according to the spirit strength of this preparation, so will the foregoing mixture form more or less of a creamy emulsion. Taking, for example, the other ingredients in the proportions ordered, and simply substituting 2 oz. of aqu. aqueous instead of an alcoholic solution of essential oils for the aqu. mellis, a beautiful white and nearly permanent creamy mixture is obtained, such as is apparently in the present instance wanted.

H. J. C. asks if any reader will oblige with a formula for hair-dressing similar to Enchristina.

222/58. H. G. (London) wants a method of **Removing Glass Stoppers** which have been broken in.

H. J. C. 34/222.—**Veterinary Surgeons and the Pharmacy Act.**—The Pharmacy Act, 1868, exempts from its first fifteen provisions the business of any member of the Royal College of Veterinary Surgeons, and the Pharmacy Amendment Act, 1869, says:—"Nor shall the said clauses (the first 15) prevent any person who is a member of the Royal College of Veterinary Surgeons of Great Britain, or holds a certificate in veterinary surgery from the Highland and Agricultural Society of Scotland, from dispensing medicines for animals under his care." The Veterinary Surgeons Act, 1881, orders the publication of a register of veterinary surgeons, which will include all its own members, and also others to be called "existing practitioners," who must have practised continuously for the five years next before the passing of the Act, "but no person registered under this section shall be deemed to be a member of the said Royal College." So that such veterinary surgeons will not be empowered, without further legislation, to deal in poisons at all. And we do not think that even a member of the Royal College of Veterinary Surgeons could legally sell poisons to the public as a chemist and druggist does. The Pharmacy Act does not interfere with his "business," but such transactions do not legitimately come within the "business" of a veterinary surgeon.

222/57. Green Soap, or Sapo Viridis, is a soft soap, made with potash and hemp or lin seed oil. Tr. saponis viridis we do not know. The German Pharmacopeia contains a *Spiritus Sapponatus*, but that is made from Castile soap 1 part, alcohol 3 parts, rose-water 2 parts.

41/221. Th obroma (Moscow).—We are not able to give you details of the process of manufacture of cocoas and chocolates adopted by particular makers. No doubt each has his own modifications, both of machinery and manipulation. The cocoa as imported is in almond-shaped beans. The makers first parch these in an iron vessel over a fire, so that the outer husk can be readily removed. After winnowing, the beans are crushed into a pulp on revolving stones, and from this the cocoa-butter is either partially or wholly pressed out by hydraulic power. All that remains to do is to dry the cocoa and reduce it to powder. It is then either sold pure or mixed with from 25 to 50 or more per cent. of starch and sugar, or it is made into a paste by grinding the beans on stones with water, sometimes with a little annatto, and sometimes with more rubbishing substances, with sufficient sugar and flavour, to make chocolates. We do not know that you can get really working directions for the manufacture, unless you can get hold of some one who has been employed in works of the kind, but we may refer you to the following books, from which you would perhaps gather information that might aid you. Papers read before the Society of Arts "On Cocoa," by Mr. J. A. Manu, and by Mr. J. Holm, printed respectively in volumes 8 and 22 of the Society's journal. It is likely that you could get the particular numbers for one shilling each from the office, Adelphi, Strand, London. There are also in French, Gosselin's "Manuel des Chocolatiers" (1869); D'Orli's "Cacaoyer et Chocolat" (1867); Chevalier's "Chocolat" (1871); and Riant's "Chocolat" (1875); all published at Paris, but we do not know the publisher, the price, nor the practical value of these works.

15/23. W. G.—The Use of a Still.—We cannot think that our paragraph (C. & D. Diary, 1881, page 154) is in the least degree misleading. We state most definitely that a licence duty of 10s. is imposed on any person who shall keep or use a still for carrying on the trade of a chemist, &c. We add that the Commissioners of Excise *may* permit the use of a still for chemical experiments or other purposes, and then we indicate how application for such permission is to be made. Please read the paragraph again more carefully, and you will admit that the error is not on our part.

98/2. Erasmus Wilson's Hair wash.—*J. S.*—The following is the formula given by Bea-ley:—

Eau de Cologne	2 oz.
Tincture of cantharides	2 drachms
Oil of rosemary	10 drops
,, lavender	10 ,,

221/69. R. W.—No descriptions will enable a non-botanical reader to identify British plants. Sowerby's "English Botany" gives coloured plates of each plant and a brief account of its properties, but it is in 11 vols. and is very expensive. Withering's "Botany" is old, but gives very full accounts of the properties of plants. Bentley and Trimen's "Medicinal Plants" gives excellent coloured illustrations of plants, but, as the title of their work indicates, they confine their attention to plants of medicinal use.

Witnesses' Fees at Inquests.—*J. D.*, "chemist and surgeon-dentist," asks what he can claim for attendance at a coroner's inquest as a witness? When ought he to claim it? And ought he to claim as a chemist or as a dentist to get a higher fee? He mentions circumstances that show that the attendance caused him much inconvenience and loss. He has been told that witnesses are entitled to 1s. only.

[You certainly cannot claim your allowance as a dentist, as the evidence you were called upon to give was given by you as a pharmaceutical chemist. But it probably would not make any difference in the amount which you would be entitled to receive. The allowances to be paid to witnesses at coroners' inquests (other than medical witnesses, whose fees are regulated by a separate enactment) were, by an Act of Parliament passed on July 15, 1837, directed to be scheduled by the quarter sessions in counties and the town council in boroughs, and a copy of the schedule deposited with the clerk of the peace, at whose office you can see it. In most places (if not all) the allowance to non-medical witnesses is merely nominal, 1s. being the usual fee so far as our observation has extended. The reason sometimes assigned for this is that every good citizen ought to be glad to assist in an investigation made in the interests of justice; to which you might perhaps reply that all good citizens who are not called away from their business to give evidence ought to be willing to equalise the burden, by allowing themselves to be taxed for the purpose of allowing reasonable remuneration to the person summoned. The law requires amendment. Reasonable allowances ought to be fixed by Act of Parliament.]

222/21. Mr. Turner.—Your letter is not inserted for the reason that we have not a shadow of legal evidence in support of the insinuation which your remarks imply. When a man goes to law and gets defected it is not the right of a journalist to rejudge the case, and even if he had such authority he ought at least to have both sides before him.

220/42. X. Y. Z. (Dublin) asks for the formula of Saunderson Guards' hair-dye. Can any reader supply it?

84/31. H. J. D.—The books that an apprentice should begin with vary according to circumstances. If he has no previous training in science, he should endeavour to attend a class in chemistry. In most towns there is at least one class connected with the Science and Art Department, and meeting in the evenings. If no class is available it will, perhaps, be best to take Attfield's "Chemistry," and go slowly and steadily through it, performing all the experiments, and going over the ground again and again till it is thoroughly mastered. At the same time the apprentice might be making a collection of small specimens of all the drugs of the Pharmacopoeia in ounce chip boxes, labelling the bottoms of the boxes with the names, botanical name, natural order, habitat, and preparations. All this can be got from the Pharmacopoeia. He should tabulate the extracts, tinctures, and other galenical preparations according to their strength, mode of preparation, &c. Oliver's "Botany" is, perhaps, the best book to begin with; but this subject should not be commenced till spring, when specimens are obtainable. Special care should be taken to go no step without experiment or specimen. Fowne's "Chemistry," Bentley's "Botany," Royle's "Materia Medica," and Proctor's "Pharmacy" will be useful when the student has mastered the rudiments of chemistry, botany, and the Pharmacopoeia.

Blaine's "Outlines of the Veterinary Art" is a well-known book.

221/11. Student.—Bentley's "Manual of Botany" is the approved pharmaceutical text-book. See also the reply to "H. J. D." above.

221/61. J. P. H.—Amber Varnish.—The following formulæ are given by Cooley:—

1. Take of amber 6 lbs., fuse it, add of hot clarified linseed oil 2 gallons; boil until it "strings well," then let it cool a little, and add of oil of turpentine 4 gallons, or q.s. It is nearly as pale as copal varnish; it soon becomes very hard, and is the most durable of the oil varnishes; but it requires some time before it is fit for polishing, unless the articles are "stoved." When required to dry and harden quicker, drying oil may be substituted for the linseed oil, or "driers" may be added during the boiling.

2. Amber, 4 oz.; pale boiled oil, 1 quart; proceed as last. Very hard.

3. Pale transparent amber, 5 oz.; clarified linseed oil or pale boiled oil, and oil of turpentine, of each 1 pint; as before.

The secret of the fine varnishes used by the celebrated makers of violins has never been discovered. Time, experience, and minute care in making and applying had undoubtedly much to do with the unrivalled results they obtained. They would as soon have thought of flying as of using a "patent drier" to save a few weeks' or months' delay.

26/91. J. L.—We think the Infants' Preservative would be liable to stamp duty. If the paragraph on the label commencing "This medicine" were omitted, it would not be liable. The other label seems to us a perfectly fair one. We assume that the wording is not copied verbatim from anybody else's label. We think that you may fairly enough tell any customer that the mixture is an imitation of such-and-such a medicine, but what you may not do is to use anybody else's property to your own advantage. Only journalists may do this. They may steal from one another to their hearts' content.

222/55. Bleaching Sponges.—Three good processes are given on page 468 of our volume for 1879. A fourth, which is a modification of two of these, is given in the *Druggists' Circular* by a pharmacist who has used it for six years. It is as follows:—

SOLUTION NO. 1.

Permanganate of potassa	4 drachms
Water	32 oz.

Make a solution.

SOLUTION NO. 2.

Ounces

Hypo-alphite of soda	4
Muriatic acid	4
Water	64

Mix and dissolve.

Allow solution No. 2 to stand six hours; then decant the clear liquid, and bottle. Now wash the sponge or sponges to be bleached, and pour out enough of solution No. 1 to cover the sponges in a mortar, and thoroughly saturate them. Then squeeze out all that is possible and wash the sponge in rain water. The sponges should be now a dark brown colour. Lastly, dip the sponges in solution No. 2, and let them remain for a very short time; take them out, rinse well in rain water, and the sponges will have a very fine appearance. If solution No. 1 does not give the sponges a deep-brown colour, add more potassium permanganate.

222/56. Cocoa-nut Oil.—A method of purifying this oil, so as to fit it for use in perfumery, is given on page 396 of the present volume. The addition of benzoic or salicylic acid to pomades or ointments prevents the appearance of rancidity. You will find useful suggestions concerning the preservation and storing of oils in THE CHEMIST AND DRUGGIST, June, 1881.

916/47. *Inquisitor*.—The name of the tree is *Staphylea pinnata*, or badder nut.

92/10. *Ixion*.—The formula of Rooke's Solar Elixir seems never to have been published.

Apropos of Mr. Wheeler's claim to a monopoly in the legend, "soft, white hands," a correspondent sends us the following extract from a poem quoted in the late Dr. Punshon's lecture on the Huguenots:—

"The rich man's son inherits lands,
And piles of brick and stone and gold;
And he inherits soft, white hands,
And tender flesh that fears the cold."

222/54. **Non-freezing Mixture**.—*J. R. L.*—Salt and snow, when mixed, form the best-known freezing mixture, and this is partly due to the fact that when salt is dissolved in water the solution will not freeze till it is cooled many degrees below the freezing point of water. Calcium chloride and snow make a freezing mixture even more powerful than the mixture of salt and ice, and a strong solution of the calcium salt will stand very low temperatures. The fact that the solution containing 1 lb. of calcium chloride to 1 gallon froze easily seems to point—first, to the formation of a definite hydrate, and, secondly, to the fact that the solution is not strong enough. But you say that methylated spirit with 5 per cent. of glycerine freezes too. You do not say what freezing apparatus you use, but it must produce very low temperatures. In fact, we should think, after this latter failure, absolute alcohol is almost the only thing that would answer. You might dehydrate methylated spirit by shaking it with repeated quantities of good quicklime, and finishing with copper sulphate burnt to whiteness on a fire-shovel.

Medical Gleanings.

SPIRITS OF NITRE AND QUININE.—Dr. R. C. Kenner writes in the *Louisville Medical News* that on adding 20 grains of quinine to 1 oz. of sweet spirits of nitre, he found it dissolve perfectly, and he believes the spirits of nitre counteracts in some measure the nausea often so troublesome in fevers.

FORMULE OF NAPHTOL.—Professor Kaposi, of the Vienna Hospital, is prescribing for external application in skin diseases, liquors containing 10, 5, 2, and in some cases $\frac{1}{2}$ grammes of naphtol in 100 grammes of diluted spirit. Also unguentum naphtoli simplex: lard, 100; naphtol, 15, 10, 5, or 1 gramme; and unguentum naphtoli comp.:—

	Grammes						
Naphtol	15						
Ung. simpl.	100						
Sapo mollis	50						
Creta alb.	10						

Messrs. Kunheim & Co., of Berlin, supplied Dr. Kaposi with the naphtol.

MRS. ERNEST HART.—At the Paris Academy of Medicine last month, Dr. Noel Gueneau de Mussy presented and summarised two papers which were, he said, specially interesting as being the work of an English lady, who had carried on her medical studies with distinction in the University of Paris.—Mrs. Ernest Hart, the wife of the able editor of the *British Medical Journal*. The papers were on the number, size, and colour of the blood corpuscles in health and disease, and the symptomatological value of the indications to be derived from this method of observation. Professor Gueneau de Mussy highly eulogised the matter and critical method of these papers, as showing a true scientific spirit. Mrs. Hart, it will be remembered, was a lady student at the Bloomsbury School of Pharmacy a few years ago.

A REMEDY FOR TOOTHACHE.—Dr. F. P. Atkinson describes in the *Practitioner* a novel form of treatment for toothache, to which he was led by Dr. Murrell's results with nitro-glycerine in angina pectoris. Being afflicted with severe toothache, and proceeding on the similarity in effect following the employment of nitro-glycerine and nitrite of amyl, he applied to the aching tooth cotton wool, saturated with Richardson's compound anaesthetic ether, which contains the nitrite. Instant relief ensued, which was maintained for four hours by a pledget of wool previously soaked in laudanum. Dr. Atkinson adds that a 1 per cent. solution of nitro-glycerine has the same effect in stopping pains as nitrite of amyl; and thus a means of relieving a most distressing complaint is opened up.

ALOETIC PILLS.—Dr. V. Androul, in the *Répertoire de Pharmacie*, calls attention to the disagreeable effects of the ordinary preparations of aloes, owing to the fact that the irritating aloes are combined with other almost equally irritating drugs, and recommends the following formula for an aloetic pill, which, he says, has given uniformly good results. In it the harshness of the aloes is mitigated by the soap and gum arabic, while its cathartic action is not interfered with, and is rather assisted by the cream of tartar. The doctor's recipe is as follows:—

	Grammes
Pulv. aloes cap.	2
Cren. tartar.	2
Sapo. ol. amygd.	4
Pulv. gummi arab.	2
Syr. sacchar.	gtt. 5

The powders are to be mixed with the soap by the aid of heat, and the syrup added to make a mass. The quantity specified is calculated to make 100 pills.—*Oil, Paint, and Drug Reporter*.

THERAPEUTICAL EMPLOYMENT OF IODOFORM.—The *Journal de Medicine Belge* gives a formula which permits the employment of iodoform without inconvenience. According to Dr. Lindeman, balsam of Peru completely masks the odour of iodoform; two parts of this balsam neutralises perfectly one part of iodoform. The best vehicles are lard, glycerine, and, above all, vaseline. Here is a formula that the author recommends:—

	Parts
Iodoform	1
Balsam Peru	3
Vaseline	8

He also often prescribes the following:—

	Parts
Iodoform	1
Balsam	3
Alcohol, glycerine, or collodion	12

First mix exactly the iodoform and the balsam Peru, then add the other ingredients. [The use of a combination of Peruvian balsam and vaseline was suggested in a paper on "New Remedies," by the late Mr. J. A. James, read before the Chemists' Assistants' Association. His formulæ will be found on page 149 of our last volume.—ED. C. & D.]

BIEDERT'S ARTIFICIAL FOOD.—This consists of white of egg, sugar or milk, cane sugar, butter, and salts. Dr. Monti, who has investigated the subject, says that even diluted cow's milk contains so much casein as to make it hard for the child to digest; further, that a certain amount of fat is essential to the digestion of bovine casein, and in diluting the milk the proper proportion between the casein and the fat is disturbed. He had tried Biedert's food in 33 cases, giving one teaspoonful dissolved in 16 teaspoonsfuls of warm water, cow's milk being added by the teaspoonful as the child grows, the amount being determined by the child's ability to digest it. The cases are thus classified:—1. As the exclusive food of new-born infants, to test its quality as nourishment. 2. In cases where infants have been artificially nourished, and have lost flesh on account of intestinal troubles, to test its nourishing quality in sick children. 3. As a dietetic means to overcome some intestinal trouble. 4. In children nursed at the breast, but not thriving, in which case it was administered with the breast milk. 5. Given to recently-weaned children, who did not readily digest cow's milk. The following results were reached: In the first series of five cases, an increase of body weight was found in all, but in two infants it was not well borne. In the second series, of six cases, all the children were under three months old, with acute and chronic intestinal troubles and emaciation. Within from 6 to 17 days after administering the mixture all the intestinal troubles were overcome, and the children gained in weight; but on continuing the mixture for some months together, in two of the cases slight enteritis occurred, but did not end fatally. In the third series, of 15 children, 11 were less than four months old, and of the whole number 13 recovered and 2 died. In the fourth series, of three cases, the results were most satisfactory, the children gaining in weight, though in two cases transitory dyspepsias were observed. In the fifth series, of four cases, all showed the best results.

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Paralysis	Female Complaints
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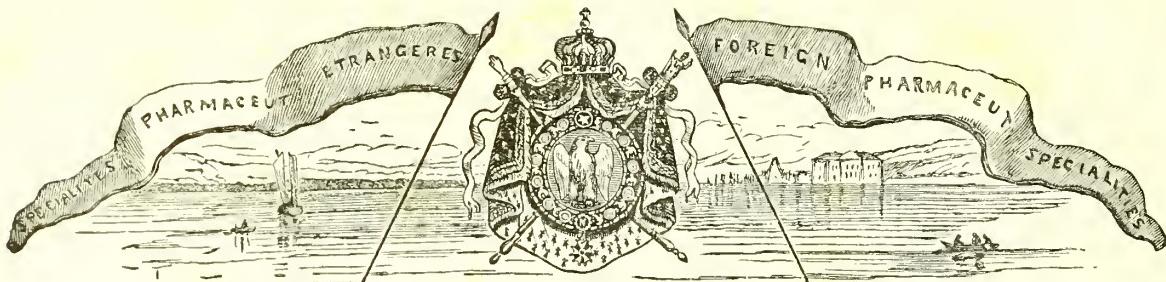
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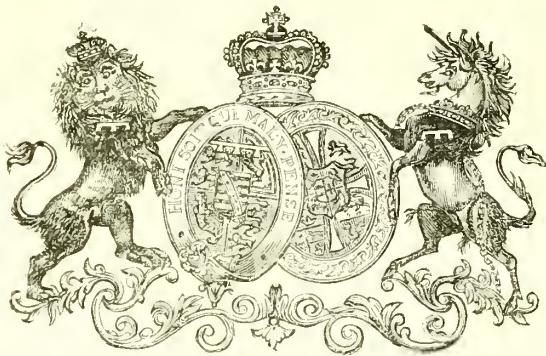
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CONDY, Appellant.

Both the above Appeals were dismissed with costs, LORD JUSTICE JAMES and the MASTER OF THE ROLLS being at a loss to understand the grounds for such applications.

Re MITCHELL v. CONDY.—Will be published, so soon as the final Decree is made, the remarkable partnership accounts, the premature publication of which, in 1873, by the Plaintiff in the said suit, then pending, was held to be Contempt of Court.

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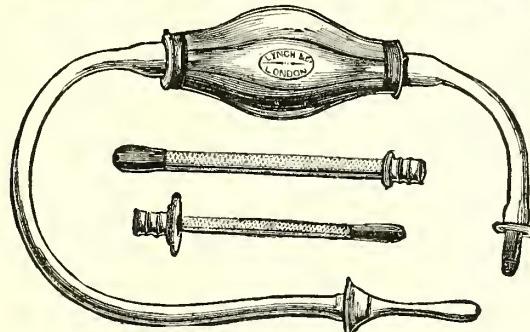
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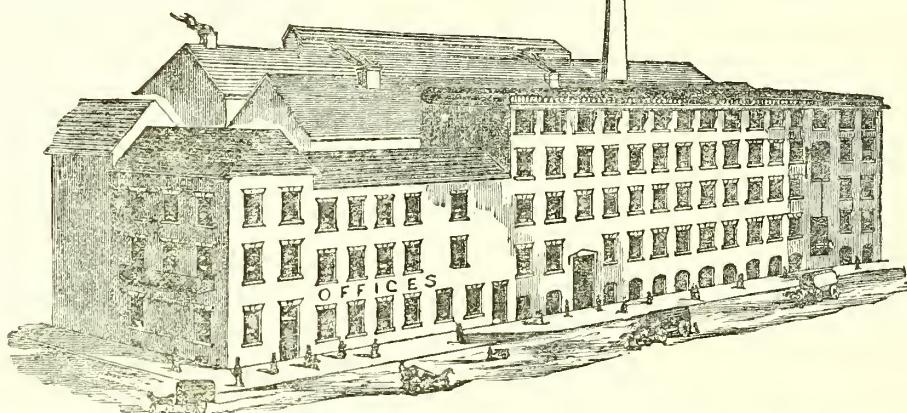
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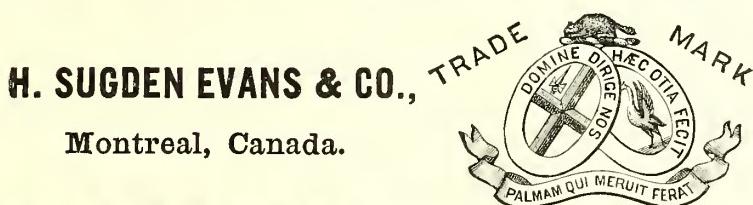
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"CLAPHAM, SEPT. 5, 1877.—Sir,—Be so good as to send me six bottles of your 'Cure for Deafness,' and you will oblige. I am much better. Shall I go on with it? Be so good as to let me know. It has done me more good than physicians to whom I have paid twenty guineas; they cannot do me any good.—Yours, &c., J. P."

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IMPORTANT CAUTIONS

From Lord Chancellor SELBORNE, Vice-Chancellor Sir W. PAGE WOOD,
and the LORDS JUSTICES OF APPEAL.

VICE-CHANCELLOR SIR W. PAGE WOOD, by whom the suit in Chancery was first heard, stated in his judgment that Dr. J. Collis Browne was undoubtedly the Inventor of Chlorodyne, that the whole story of the Defendant Freeman was as deliberately untrue as the falsehood he had deposed to with reference to the use of his Chlorodyne in the Hospital.'

The VICE-CHANCELLOR also stated, 'that Chlorodyne was a fanciful name, and had application been made sooner, the Court would have given Dr. Browne protection.'

LORD CHANCELLOR SELBORNE coincided with the judgment of the Vice-Chancellor upon this point, and stated 'that had application been made at a proper time and place, the Court would have found means to restrain the Defendant from misrepresenting the decision of the Vice-Chancellor.'

LORD JUSTICE JAMES, on appeal, stated in his judgment, 'that the Defendant Freeman had made a deliberate misrepresentation of the decision of Vice-Chancellor Wood.'

It was proved in Court, on affidavit by Mrs. Forbes, of Paris, that the testimonial published in the *Times*, November 14th 1865, speaking of the great efficacy of Chlorodyne in Cholera, referred to Dr. J. Collis Browne's Chlorodyne, and that she never used any other, that she had written to the Defendant Freeman to that effect; notwithstanding which notice the Defendant publishes the said testimonial as referring to his medicine.

The Editor of the *Medical Times*, in his report on Chlorodyne, January 13th, 1866, gives information that the Chlorodyne referred to was the medicine introduced by a retired Army Medical Officer, which was Dr. J. Collis Browne; still this is published by the Defendant as testimony to his medicine.

Numerous affidavits from eminent Physicians and others were produced in Court, stating that Dr. J. Collis Browne was the inventor of Chlorodyne, and that when prescribing they mean no other.

The Defendant himself publishes that his compound is in effect and composition quite different to any other preparation nevertheless he assumes the name, testimonials, &c., of Chlorodyne.

Technicalities in law prevent that protection which the public should justly have against such a course of conduct. It is now incumbent on all who purchase Chlorodyne to see that the name, 'Dr. J. Collis Browne's Chlorodyne,' is engraved on the Government Stamp, as it is not sold otherwise. All other compounds under the name of Chlorodyne are spurious. All attempts at analysis have failed; hence the statement that the constituents of Chlorodyne are known is a misrepresentation.

From SYMES & Co., Pharmaceutical Chemists, Medical Hall, Simla,
January 5, 1880.

To J. T. DAVENPORT, Esq., 33 Great Russell Street, Bloomsbury, London.

DEAR SIR,—Have the goodness to furnish us with your best quotations for Dr. J. Collis Browne's Chlorodyne, as, being large buyers, we would much prefer doing business with you direct than through the wholesale houses. We embrace this opportunity of congratulating you upon the wide-spread reputation this justly-esteemed medicine has earned for itself, not only in Hindostan, but all over the East. As a remedy of general utility, we much question whether a better is imported into the country, and we shall be glad to hear of its finding a place in every Anglo-Indian home. The other brands, we are happy to say, are now relegated to the native bazaars, and, judging from their sale, we fancy their sojourn there will be but evanescent. We could multiply instances *ad infinitum* of the extraordinary efficacy of Dr. Collis Browne's Chlorodyne in Diarrhoea and Dysentery, Spasms, Cramps, Neuralgia, the Vomiting of Pregnancy, and as a general sedative, that have occurred under our personal observation during many years. In Choleraic Diarrhoea, and even in the more terrible forms of Cholera itself, we have witnessed its surprisingly controlling power. We have never used any other form of this medicine than Collis Browne's, from a firm conviction that it is decidedly the best, and also from a sense of duty we owe to the profession and the public, as we are of opinion that the substitution of any other than Collis Browne's is a deliberate breach of faith on the part of the chemist to prescriber and patient alike.

We are, Sir, faithfully yours,

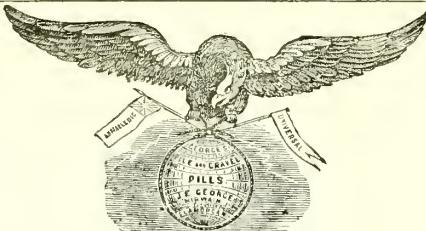
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See pages 21, 22.

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A MARVELLOUS CURE FOR TOOTH-ACHE.

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N.B.—FULL DIRECTIONS ARE GIVEN WITH EACH BOX



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No. 1416.

**TWO SPECIAL FIRST AWARDS, SYDNEY EXHIBITION, 1879-1880.
FIRST AWARDS, WITH GOLD MEDAL FOR ESPECIAL EXCELLENCE
MELBOURNE EXHIBITION, 1880-1881.**

**THOMAS WHIFFEN, BATTERSEA, LONDON,
MANUFACTURER OF
QUININE SULPHATE.**

White and Unbleached, and all other important Salts of Quinine; as also of QUINIDINE, CINCHONIDINE, AND CINCHONINE.

QUINETUM. The Alkaloids of India Cinchona Succirubra Bark.

QUINETUM SULPHATES.

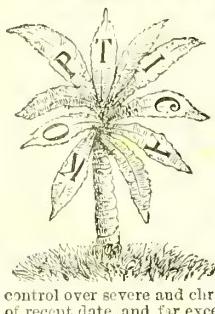
LIQUID EXTRACT OF CINCHONA BARK.

SALICINE. The active principle of Willow Bark.

STRYCHNINE (HULLE'S).

The Advertiser is the PROPRIETOR and INVENTOR of this well-known Brand.

KOPTICA.



This New Persian Herbal Extract Cures (no matter how Chronic) Neuralgia, Rheumatism, Rheumatic Gout, Lumbago, Sciatica, Toothache, Faceache, Earache, and all affections arising from Cold.

It is an invaluable remedy, and unlike others of the present day it is guaranteed free from Colchicum, Belladonna, Henbane, Aconite, and all deleterious drugs. Since its discovery it has been tested with unprecedented success, proving it to be a complete specific for all Rheumatic Affections, as well as for low nervous depression and other minor maladies; showing also its wonderful remedial powers by its perfect control over severe and chronic cases of many years' standing as over those of recent date, and far exceeding in completeness and rapidity of cure anything yet known.

AUTHENTICATED TESTIMONIALS.

6 William Street, Bloomsbury Gate,

London, April 11th, 1881.

SIR,—I have suffered from Rheumatic Gout for the last ten years. I have been in three London Hospitals, and three months at the Bath Mineral Water Hospital. I could get ease, but soon the pains returned. I had a bottle of your Koptica, and after taking the doses as directed for two days, my pains left me; the swelling left my hand and knees and ankles, and my joints became pliable, and I am now able to go to my duties quite freely and without pain. I shall keep your Koptica with me. I strongly recommend it to all who are troubled with Rheumatic Gout.

Yours, &c., RICHARD OBORN.

Any person making inquiries from Mr. OBORN, or from any of the people in his neighbourhood, where he has long been known as almost a cripple, will soon ascertain the truthfulness of this Testimonial.

Messrs. Squire, Fox & Co. 364 Portobello Road, Notting Hill, June 24th, 1881.

GENTLEMEN.—I have suffered from Sciatica for many months, but your Koptica which was recommended to me by a friend, has completely cured me.

Yours, &c., W. O. BELLINGHAM.

3 Buckingham Street, St. James's Park, S.W., June 19th, 1881.

SIRS,—I can certify, after suffering twelve months from Rheumatic Gout, that I am gradually getting much better from taking your Koptica. The swelling has gone down greatly, and I feel my hands nearly well. I shall continue to take it, and thoroughly recommend it to all my friends.

I remain, Sirs,

To Messrs. Squire, Fox & Co., Yours respectfully,

(Mrs.) M. A. COURT.

Bloomsbury Mansion, London.

Mrs. JOSEPH SIMMONS, of Lancaster House, Clifton Gardens, W., writes, under date of October 5th, 1881, that her Neuralgia is very much better, and that she has recommended Koptica to many of her friends.

*** We are constantly receiving letters from all parts of the Kingdom bearing testimony to the very great benefits derived from Koptica.

Chemists, &c., should procure it at once, as it is now extensively advertised.

Sold in very neat small pink packets at 2s. 3d. and 4s. 6d.

1/2 doz., 3 doz., and dozen packed in outer.

Terms and prices from SQUIRE, FOX & CO., Bloomsbury Mansion, London.

JAMES WOOLLEY, SONS & CO.,

DRUG MILLERS

AND

Manufacturing Pharmaceutical Chemists,

IMPORTERS OF THE

"EXTRA PALE" COD LIVER OIL,

MAKERS OF

SPIRITUS AETHERIS NITROSI, B.P.,

Guaranteed of the official strength.

SPIRITUS AMMONIAE AROMATICUS,

Distilled from Volcanic Ammonia.

TASTELESS COATED PILLS.

Warehouse and Offices :—

2 & 4 SWAN COURT, MARKET ST.;

Laboratory and Drug Mills :—

KNOWSLEY STREET, CHEETHAM,

MANCHESTER.

DUNCAN, FLOCKHART & CO.,

WHOLESALE AND EXPORT DRUGGISTS, EDINBURGH.

CHLOROFORM

Prepared from Pure and Methylated Spirit.

Put up in all sizes of bottles. A strap with Name and Trade Mark of the Firm is placed over the stopper of each bottle. For Export, in bottles corked and luted (stoppers attached), and in hermetically sealed flasks when required.

N.B.—We guarantee our Chloroform prepared from METHYLATED SPIRIT to be PURE CHLOROFORM, answering all the tests of the British Pharmacopœia.

CHLORIC ETHER.

SP. AMMON. AROMAT. | SP. ÄTHER. NITROS. | SYR. FERRI PHOS. CO. (PARRISH).
Fluid Extracts, Concentrated Infusions, and all Pharmacopœial Preparations.

MANUFACTURERS OF THE CELEBRATED

BLUE BLACK WRITING INK & COPYING INK.

SHIPPERS SUPPLIED ON LIBERAL TERMS.

White Gutta Percha for Stopping Teeth, in 6d. and 1s. Boxes.

NEW REMEDY.

ANTISEPTIC, CAUSTIC, HÖEMOSTATIC,
DISINFECTING, PRESERVING, &c.

Resorcinum puriss Medicinale "Andeer."
*Manufactured by
Messrs. HOFMANN & SCHOETENSACK,
of Ludwigshafen a/ Rhine,
after Dr. Andeer's method.*

Sole British and Colonial Agents,
R MORRISON & CO., 2 Fen Court, E.C.

J. F. MACFARLAN & CO.,

EDINBURGH AND LONDON,

Manufacturers of

MORPHIA AND ITS SALTS,

And all Products from Opium; also

PURE CHLOROFORM.

Answering all the Tests of the British Pharmacopœia.

Is extensively used in the Hospitals and by Private Practitioners, and is rapidly superseding the expensive Alcoholic Preparation.

MAY BE HAD FROM ALL THE WHOLESALE HOUSES, AND AT

17 North Bridge, Edinburgh, and 5 Barge Yard, Bucklersbury, London.

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SALMON'S
PATENT.
MARK.

SALMON, ODY & CO., 292 Strand, LONDON.
PATENT TRUSS MANUFACTURERS.

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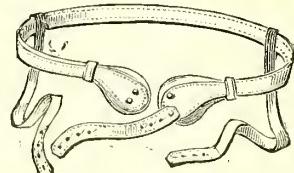
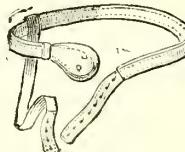
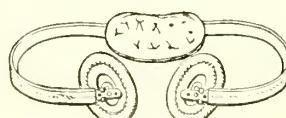
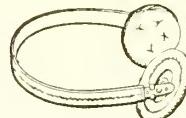


FIG. 1. Patent Single.

FIG. 2. Patent Double.

FIG. 3. Common Single

FIG. 4. Common Double.

NETT PRICES, 1880.

Patent Self-Adjusting Trusses, Basil and Chamois, per doz (Fig. 1), single	£1 10 0	Common Circular Trusses, Basil and Chamois	... per doz. (Fig. 3), single	£0 18 0
Ditto ditto Basil and Moleskin	1 10 0	Ditto ditto Basil and Moleskin	" "	1 10 0
Ditto ditto Roan and Skiver, Silk Sewn	2 8 0	Ditto ditto Basil and Chamois	" " (Fig. 4), double	1 10 0
Dit'o ditto Basil and Chamois	3 10 0	Ditto ditto Basil and Moleskin	" "	1 18 0
Dit o ditto Basil and Moleskin	3 16 0	Scrotal Trusses, Basil and Chamois or Moleskin	each, single	0 3 0
Ditto ditto Roan and Skiver, Silk Sewn	4 16 0	Ditto ditto	" " double	0 7 0

N.B.—Customers are invited to order direct from S. O. & Co., or to advise their Agents to do so, as the GENUINE article cannot be obtained elsewhere, and none are of their make unless Stamped with Registered Trade Mark on Springs and Plates.

GREAT SAVING OF MONEY AND LABOUR. SOMETHING NEW ELEGANCE AND DURABILITY COMBINED.

PATENT RECESS LABELLED SHOP ROUNDS. Parties about to Open New Establishments or Refit Old Premises should compare following Net Prices. These Prices include Glass Labels attached to Bottles ready for use.

Size.	Height.	FLINT GLASS.	BLUE GLASS.
16 ounce	8 inches	16/6	18/6
20 "	"	20/	22/ per dozen.

Size.	Height.	FLINT GLASS.	BLUE GLASS.
32 ounce	10½ inches	20/	22/
42 "	"	22/	26/6 per dozen.

Prices of other Shop Bottles, &c., on application. Sample Bottle sent on receipt of 1s. 1d. in stamps. Facsimile Sheet Labels, in various styles, sent on receipt of two stamps. Amongst others, the following parties have recently been supplied with these Bottles:—

Ady, Dr. J. C., Rangoon.	Edwards, G., Stockport Road, Manchester.	MacVea, A., Whithorn.	Reid, Dr., Aberfeldy.
Beckwith, H. B., Grenada.	Forwell, H., Helmsburgh.	Mason, W. D., Grimsby.	Rand, E., Wagga Wagga, New South Wales.
Blair, John, Cork.	Fraser, John, Helmsburgh.	Maston, G., Hartlepool.	Senior, Harold, Norwood Lane, London, S.E.
Bray, W., Pollokshields.	Gardner, A. W., Auckland, New Zealand.	Mungall, Dr., Glasgow.	Sibthorpe, S., Wolverhampton.
Brevis, John, West Hartlepool.	Gibson, Robert, Hulme, Manchester.	M'Caull, J. & G., Londonderry.	Smith, Albert, Ulstracome.
Brocq, P. De Le, Jersey.	Henry, J. P., Belfast.	M'Janet, Dr., Lennoxton.	Taaffe, H., Londonderry.
Brunton, W. W., South Kensington, London.	Irvine, Dr., Pitlochry.	M'Kirdy, J., Rothesay.	Taylor, W. G., Hungerford.
Carruthers & Allan, Dumfries.	Keith, John, Leeds.	M'Rae, Alexander, Edinburgh.	Todd, Joe, Carlisle.
Charlesworth & Co., Manchester.	Kinninmont, A., Glasgow.	Noble, A., Galashiels.	Waterhouse, A., Dewsbury.
Cullen & Co., South Norwood, London.	Laidlaw, Walter, Denny.	New Medical Hall, Campbeltown.	Western Medical Hall, Glasgow.
Cunninghams Bros., Dundee.	Lonsdale, A. W., Rangoon, Burmah.	Pattison, H., Coleham, Shrewsbury.	Wills & Woottton, West Minstre Colliery,
Day, J., Savile Town, Dewsbury.	Macfarlan, A. Y., Edinburgh.	Pettigrew, J. W., Lenzie.	Wing, Lewis, Chisledhurst.
Donald, Dr., Paisley.	Mackie, Keith, Paisley.	Quiray, W. D., Belfast.	Yarrow, Dr. H., Govan.

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**BAGLEY, WILD & CO.,
GLASS BOTTLE MANUFACTURERS,
DRUGGISTS' SUNDREY MEN, AND GENERAL EXPORTERS.**

For Quality and Variety of Bottles we obtained Prize Medal at the Paris Exhibition, 1878.

INDENTS FOR ALL KINDS OF GOODS EXECUTED WITH DESPATCH AND AT SMALL COMMISSION.
SEE OUR ADVERTISEMENT IN JANUARY ISSUE.

**LONDON OFFICES AND WAREHOUSE: G.N.R. GOODS DEPOT, KING'S CROSS.
WORKS: KNOTTINGLEY, YORKSHIRE.**

GLASS BOTTLES

OF EVERY DESCRIPTION,

Winchesters, Corbyns, pale or blue, stoppered or plain; also Carboys and Baskets,

DIRECT FROM THE FACTORY.

JOHN LUMB & CO.

CASTLEFORD, YORKSHIRE.

COTTAGE GLASS WORKS,

William St., Lambeth, London, S.E.

All descriptions of Bottles (blue or green tints) used in Medical Trade, Vials and Faney Jars, &c., used in Perfumery and Druggist Trades, made at Cheapest Rates compatible with best work.

JOHN M'LACHLAN & CO.

Wanted, Country, Colonial, and Foreign Agents, to sell on Commission. Terms liberal.

N.B.—Shippers supplied on most advantageous terms.
BROKEN GLASS BOUGHT.

FIRST ORDER OF MERIT AWARDED AT MELBOURNE EXHIBITION, 1881.
PRIZE MEDALS, INTERNATIONAL EXHIBITIONS.



LONDON, 1862.



PARIS, 1875.



PHILADELPHIA, 1876.



PARIS, 1878.



SYDNEY, 1879.

KILNER BROTHERS, MANUFACTURERS OF GLASS BOTTLES,

Of which the following are principal kinds:—

DRUGGISTS' BOTTLES, for Powders, Pills, Acids, Citrate of Magnesia, and other products supplied by Chemical Manufacturers and Wholesale Druggists.

CASTOR OIL, COD LIVER OIL, AND HAIR OIL BOTTLES of various shapes, plain and fancy, with or without stoppers.

CARBOYS for Vitriol, &c., of all sizes, with or without Baskets.

DISPENSING & OTHER BOTTLES, both green and white, for the use of Chemists, Surgeons, and Manufacturers of Patent Medicines, &c.

PERFUME BOTTLES, in different sizes and shapes, suitable for both the Wholesale and Retail Trade.

MINERAL WATER BOTTLES for all kinds of Aërated Drinks, of every shape and colour, suitable either for Corks, or the various Patent Stoppers now in use.

WINE AND SPIRIT BOTTLES, of various shapes and sizes, and in suitable colours. **ALE** and **PORTER** Bottles in the dark green colour now so much preferred, both for Corks and Barrett & Elers' Screw Stoppers.

CONFECTIONERS' BOTTLES, with or without stoppers, comprising Drops, Barley Sugars, Jellies, Rock, Jam, and Marmalade Jars.

PICKLE, SAUCE, VINEGAR, and Wholesale Oilmen's Bottles in great variety, with or without Stoppers.

We beg to solicit Orders for our New Feeders, at the following prices:—

“OUR DARLINGS’ BOTTLE.”

White Flint Bottles, fitted with Florentine Screw Cap, Black or Brown Fittings, with tube and bottle brushes.

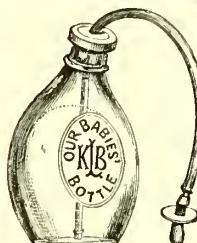


“OUR DARLINGS’ BOTTLE.”

Each bottle in a cardboard box, attractively labelled.

90/- per gross.

“OUR BABIES’ BOTTLES.”



GREEN BOTTLES, with boxwood top corks and white fittings, 38s. per gross.

Ditto, with brown or black fittings, 44s. per gross.

WHITE BOTTLES, with boxwood top corks and white fittings, 40s. per gross.

Ditto, with brown or black fittings, 46s. per gross.

Above are put one dozen in a wooden box, or can be supplied, each bottle in a cardboard box, neatly labelled, at 6s. per gross extra.

Spare Bottles—Green, 13s. per gross; White, 15s. per gross.

Terms and Discounts forwarded on receipt of application stating quantity required.

Large Buyers liberally treated with.

WHITE FLINT BOTTLES, with earthenware caps and white fittings, with tube and bottle brushes complete, each bottle in a cardboard box, 78s. per gross.

Ditto, with brown or black fittings, 84s. per gross.

Ditto, with white fittings, bottle of cement for attaching cork strips inside the cap, extra teat, and boxwood cork, 108s. per gross.

Ditto, with brown or black fittings, 120s. per gross.

The 1s. and 1s. 6d. Feeders are fitted with an arrangement in the rubber tubing for ascertaining the flow of milk, which will be found very useful to all who have charge of infants.



LONDON OFFICES AND WAREHOUSES:
NO. 3A GREAT NORTHERN GOODS STATION, KING'S CROSS.

WORKS:—THORNHILL LEES AND CONISBORO', YORKSHIRE.

Illustrated Price Lists and Samples forwarded on Application.

REVISED PRICES OF VERIFIED GRADUATED MEASURES.

1 drm.	2 drm.	4 drm.	1 oz.	2 oz.	3 oz.	4 oz.	6 oz.	8 oz.	10 oz.	16 oz.	20 oz.	40 oz.
9/6	11/6	13/	10/3	11/6	13/	14/6	18/	19/	21/	25/	29/	40/ doz.

WILLIAM TOOGOOD,
36 & 37 Mount St., Grosvenor Square, London, W.,

MANUFACTURER OF

All kinds of Glass Bottles for the use of Chemists, Perfumers, Surgeons,
Manufacturers of Patent Medicines, &c.

A REVISED CATALOGUE of GLASS BOTTLES, EARTHENWARE, SUNDRIES, &c.,
Will shortly be ready,

And will be forwarded post free upon application.

**CHEMISTS' AND DRUGGISTS'
SHOP BOTTLES AND JARS
WITH BURNT-IN LABELS.**

Narrow-mouthed and Wide-mouthed Bottles, well
Stoppered.

Capped and Tube-stoppered Oil Bottles.

Syrup Bottles, with Plug Stoppers of Dark Blue or
White Opaque Glass.

Lozenge Jars with Cut Glass Knobs.

Cut Perfume Bottles, Round, Oval, and Square.

Shop Jars of Best Poreelain, thoroughly Grease
Proof.

Labels Indestructible and of Elegant Appearance.

ILLUSTRATED PRICE LIST ON APPLICATION.

A Large Variety of Samples on Show at

H. POTHS & CO.,
4 SUGARLOAF COURT
50 LEADENHALL STREET, LONDON, E.C.

Two Shops completely fitted with these Bottles and
Jars may, by permission of the owners, be inspected at
Messrs. Twinberrow & Son, 80 Wigmore Street, W.;
and in an entirely different style at Mr. M. Büchner's,
124 High Street, Whitechapel.

**For Best Composition, Acid Proof,
MORTARS & PESTLES,
ALL SIZES.**

COMPOSITION PILL TILES AND FUNNELS.

EARTHENWARE—COVERED POTS, } ALL SIZES.

GALLIPOTS,

" UNIONs.

" MEDICINE SPOONS.

" INVALIDS' FEEDERS.

" INFUSION JUGS.

" SHOP JARS.

" BED PANS.

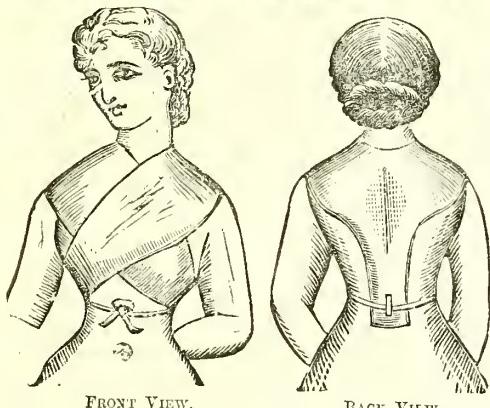
" URINALS, ETC., ETC.

*Special attention to Export Orders. Apply for Price List and
Special Quotations to*

**EDWARD S. INSULE,
HANLEY, STAFFORDSHIRE.**



HAYWOOD'S SURGICAL APPLIANCES.



Greatest attention paid to Special Orders,
which are invariably forwarded per
return of post.

List of Prices and Directions for Measurement forwarded on application.

J. S. HAYWOOD, Castle Gate, NOTTINGHAM.

Original Plaster Works.

ESTABLISHED OVER 60 YEARS.

A. De St. Dalmas, 40 Belgrave Gate, Leicester.

MEDICAL PLAISTERS

Of all kinds (Best Quality) for HOME and EXPORT. POROUS
PLAISTERS—Yards or Boxes. Order "St. Dalmas" through Wholesale
Houses. Price on application.

FRANCIS'S BRONCHIAL PROTECTOR

REGISTERED TRADE MARK.

Best Preventive and Cure of Bronchitis, Asthma,
and other Throat Complaints.

Manufactured by A. DE ST. DALMAS, Leicester.

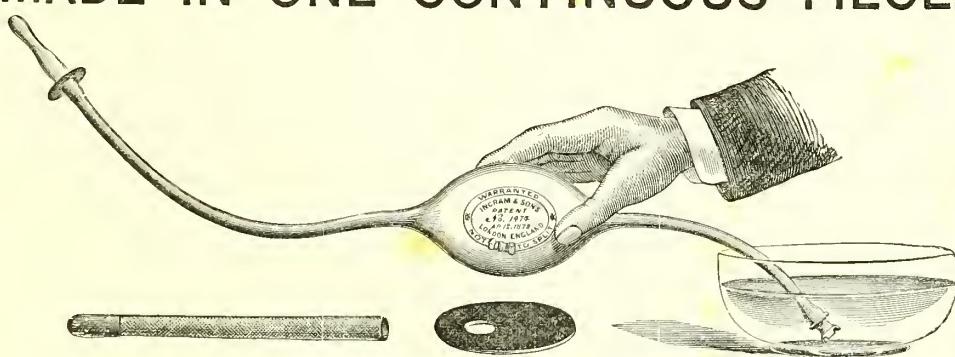
Prices—1s, 1½d, and 2s. 9d.

To be obtained through all the Wholesale Houses.

INGRAM'S IMPROVED ENEMA APPARATUS

By Royal Letters Patent.

MADE IN ONE CONTINUOUS PIECE.



WARRANTED NOT TO SPLIT.

The following are the advantages we claim for our invention:—

- 1st.—A complete Enema and Syringe Apparatus, without any metallic connections or wire fastenings whatever, thereby avoiding the possibility of leakage.
- 2nd.—Specially prepared to resist the heat in tropical countries.
- 3rd.—A perfect apparatus: will not split, become hard, or sticky.

Patented in America, No. 212,939, March 4th, 1879, and in France, No. 126,909, October 11th, 1878.

TO BE OBTAINED OF ALL

CHEMISTS, DRUGGISTS, SURGICAL INSTRUMENT MAKERS and DRUGGISTS' SUNDRIESMEN.

SPECIAL NOTICE TO CHEMISTS.

BOWLING & GOVIER,

Medical Shop Fitters,
22 GUN ST., BRUSHFIELD ST.,
BISHOPSGATE,
LONDON.

NOTICE.

TERMINATION OF PARTNERSHIP.

The Partnership having terminated

between FILMER KIDSTON, BOWLING & GOVIER,

Shop Fitters, of Duke Street, Bishopsgate, Messrs.

BOWLING & GOVIER beg to state that their Business will now be carried on at the above address, where all goods of their manufacture can be obtained.

Plans and Estimates supplied for the entire Fitting of Chemists' Shops, &c.

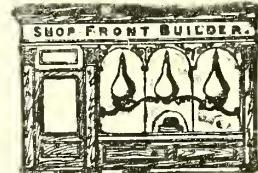
SHOP-FITTINGS.

ESTABLISHED 1830.

SAMUEL HOWLETT,

4 LINDELEY STREET (formerly called North St.), SYDNEY
STREET, MILE END, LONDON, E.

A few Minutes' Ride by Omnibus from the Bank.



MEDICAL AND GENERAL SHOP FITTER.

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Messrs. Corbyn, Stacey & Co., 7 Poultry, London.
Mr. H. Deane, Clapham, London.
" John Broad, Hornsey Rise, London.
" N. Nicholson, Canonbury, London.
&c. &c. &c.

Messrs. Leath & Ross, St. Paul's Churchyard, London.
Harvey & Reynolds, Lee is.
Mr. W. F. Smith, 280 Walworth Road, S.E.
Mr. Thomas Hall, Lowestoft.
&c. &c. &c.

Cabinet Fitter to the Pharmaceutical Society of Great Britain. Manufacturer of every description of Air-tight Glass Show-cases for Chemists, Jewellers, &c. Medical Labelling, &c.

Plans and Estimates for Entire Fittings and Alterations supplied.

LLOYD RAYNER'S £75 CHEMIST'S SHOP

FITTED COMPLETE WITH ALL NEW GOODS,
INCLUDING

GLASS SHOW CASES, SHOP BOTTLES, JARS, &c.

If for Export, suitable for any climate, including
Packing Cases, and delivered to any of the
London Docks, free, £85.

The above Fittings are suitable for a Shop
14 feet long by 12 feet wide.

WHOLESALE AND RETAIL DRUGGIST'S, SURGEON'S,
AND DENTIST'S VALUER.

An Extensive Stock of Chemist's, Surgeon's, Dentist's, Grocer's
and other Trade Fixtures, Office Fittings, Utensils, &c.

ALL KINDS OF FIXTURES BOUGHT OR TAKEN IN EXCHANGE.

SHOW ROOMS AND OFFICES—

333 KINGSLAND ROAD.

FACTORIES—

2 DOWNHAM ROAD, KINGSLAND;

AND

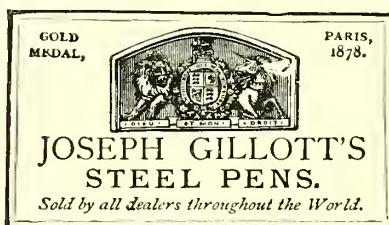
WHITMORE ROAD, HOXTON, LONDON, N.

W. S. YATES,
Chemists' Shop Fitter, Shop Front Builder,
and Glass Show Case Maker.

PLANS AND ESTIMATES SUPPLIED FOR WORK IN ANY PART
OF THE KINGDOM.

9 CAMDEN STREET, LIVERPOOL.

SPONGE.
M. PETERSON & CO., Importers,
66 SOUTH JOHN STREET,
LIVERPOOL.
For Home, Foreign, and Colonial Markets.
Wholesale only.



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See Pages 21 and 22.

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Druggists' Shops Fitted and Furnished complete with
Fixtures, Bottles, Jars, Carboys, and
Specie Jars by contract.

Plans and Estimates
supplied.

DRUGGISTS' SHOP FITTERS BY CONTRACT.

OFFICES
AND

SHOW ROOMS—
72, 74, 76, 78, and 80 CRONDALL STREET.

Steam Works—

44, 46, 48, 50 & 52 WHITMORE ROAD, & BRIDGE WHARF, REGENT'S CANAL,

Office for all Communications—

78 CRONDALL STREET, HOXTON, LONDON, N.

LEMAITRE & CO., Successors to

1ST CLASS PRIZE EXCELLENCE IN DESIGN

MANUFACTURER OF A SUPERIOR KIND OF FITTINGS FOR SHOPS SHOW ROOMS AND OFFICES PLANS & ESTIMATES FOR ALTERATIONS NEW SHOP FRONTS AND FITTINGS

ARCHITECTURAL AND ARTISTIC WOOD WORK

HONORABLE MENTION

DUKE ST. BRUSHFIELD ST. BISHOPSGATE N.E. SHOW ROOMS & FACTORY

A LARGE ASSORTMENT OF SHOW CASES &c ALWAYS IN STOCK

SUPERIOR FINISH

SHOP FITTINGS & SHOW CASES

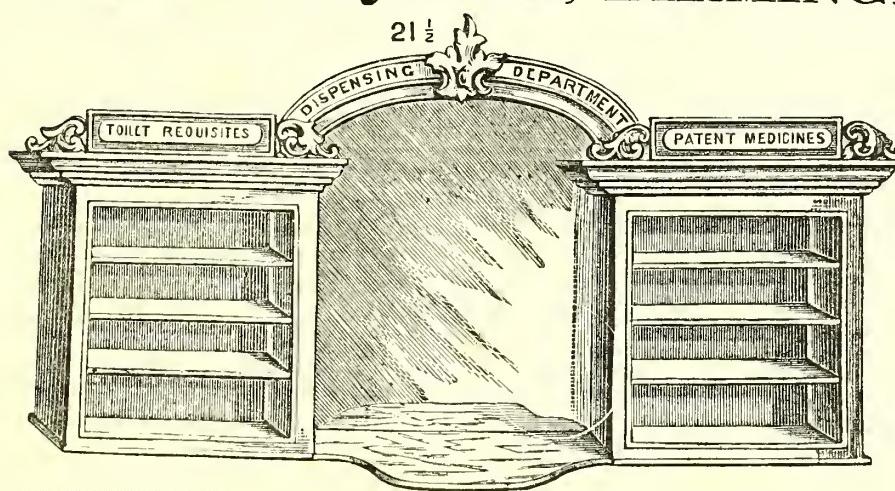
And at 66 PENTONVILLE ROAD.

Full particulars of Kidston's Prize Dispensing Counter forwarded on application.

Illustrated List of Modern Showcases and Shop Fittings post free.

R. TOMLINSON,
DRUGGISTS' SHOP-FITTER, SHOW-CASE MAKER,
AND MANUFACTURER OF DRUGGISTS' SUNDRIES,
15 St. PAUL'S SQUARE, BIRMINGHAM.

This Case is made of choice Mahogany, with Mirror in centre and lined at back with Black Enamelled Leather. Cloth. It has Plate-Glass Shelves, Glass Knobs on the Doors, a Marble Slab in the Centre, and is fitted with Three Shelves at back. The Case is 6 feet long, 29 inches to corners, 33 inches to top of tablets and 36 inches to top of centre mirror.



For Export or easy transit it is admirably adapted, as it takes to pieces, and can be fixed again in an hour. Packs into a Case 34 by 36, at a cost of 10s. 3d. of which is allowed if the empty is kept, and the full value allowed if returned carriage paid.

Price, £8 10 0

VALUATIONS EFFECTED.

Second-hand Fixtures for Sale, Jars, Globes, Drawers, Bottles, Counter Glass Cases, Shelves, &c. SECOND-HAND FIXTURES OF ALL KINDS BOUGHT AND EXCHANGED.

R. T. will wait upon parties fitting up, to plan and advise. 2nd-class fare only charged FOR SALE, FIXTURES OR SHOP ABOUT SIXTEEN FEET BY TWELVE. WRITE FOR LIST.

SPRATT'S PATENT MEAT "FIBRINE" DOG CAKES & POULTRY MEAL, DOG MEDICINES AND DOG SOAP.

TO CHEMISTS AND DRUGGISTS.

The above Goods have an enormous Sale. For Terms, address—
“SPRATT'S PATENT,” Bermondsey, S.E., or order through your Wholesale House.

Wholesale Agents for the Soap and Dog Medicines:—Barclay & Sons; Sanger & Sons; Sutton & Co.; F. Newbery & Sons; Lynch & Co., London; Raimes & Co., Edinburgh, York, and Liverpool; Ravensdale Mill Co., Dublin; Woolley, Sons & Co., Manchester; Taylor, Gibson & Co., Newcastle-on-Tyne; Goodall, Backhouse & Co., Leeds; and of all Wholesale Houses.

HORSES.—LIEUT. JAMES'S BLISTER

(Manufactured by R. J. JAMES, the Grandson of the Inventor).

This celebrated Blister is now offered to the Trade at the following reduced prices:—



1 oz. pots from	14/- per doz.	12/- per doz.	1 lb. pots from	£4 4/- per doz. to	£4 0/-
2 "	£1 5 6	£1 3 0	1 "	7 16 0	"
4 "	2 8 0	2 4 0	"	"	7 10 0

Observe the Trade Mark.—“A Horse's Head on the top of each Pct, and the signature, R. J. James.”

Wholesale Agents, LUTLER & CRISPE, 4 Cheapside; NEWBERY, 37 Newgate Street; MAW, SON & THOMPSON, 11 Aldersgate Street; HAYES & CO. Dublin; GOULDING, Cork; FOGLIFF, Thirsk; and SANG & BARKER, Edinburgh. Agents for the Colonies required. Apply, with reference, to R. J. JAMES, 15 Union Bank Buildings, Ely Place, London, E.C.

JAMES v. JAMES.—LORD ROMILLY, the Master of the Rolls, on February 23, 1872, declared “that I had an equal right with other members of the Inventor's family possessing the receipt to make and sell this Blister.”—R. J. JAMES.

ESTABLISHED 1833.

HORSES.—LIEUT. JAMES'S BLISTER.

CAUTION.

The annexed Label is at the top of every Pot of the ORIGINAL and only GENUINE BLISTER.



The Messrs. Barclay & Sons, 95 Farringdon Street, London, and Messrs. Raimes & Co., Edinburgh, Liverpool, and York, are now and have been Agents 45 years.

AGENTS:—Sutton & Co., 10 Bow Churchyard; W. Edwards & Son, 157 Queen Victoria Street; Newbery & Son, 37 Newgate Street; Evans, Lescher & Evans, Bartholomew Close; Burgoyné, Burbidges & Co., 16 Coleman Street; Lynch & Co., 171A Aldersgate Street; W. Mather, Farringdon Road, London, and Manchester; Tidman & Son, Wilson Street; Sanger & Son, 150 Oxford Street; Millard & Sons, 40 Charterhouse Square; Corry & Soper, 58 Thames; A. A. Campbell, Leadenhall Street, London; Woolley, Sons & Co., 59 Market Street, Manchester; Apothecaries' Company, Virginia Street, Glasgow; Boileau & Co., Bride Street, Dublin; McMaster & Co., 121 & 122 Capel Street, Dublin; Hunt & Co., 17 Westland Row, Dublin; Clarke & McMullen, Victoria Street, Belfast; D. Galbraith, Londonderry. And by all Chemists, in Pots, 1/6, 2/8, and 5/-.

COLONIAL AGENTS:—MELBOURNE and WELLINGTON: Felton, Grimwade & Co.; SYDNEY, BRISBANE, and LAUNCESTON: Elliott Bros. & Co.; DUNEDIN and AUCKLAND: Kempthorne, Prosser & Co.; CALCUTTA: Smith, Stanistreet & Co.

R. S. JAMES, 31 Years Sole Manufacturer, STANFORD, FARINGDON, BERKS.
Advertised in "Bell's Life" 45 years. Beware of Spurious Imitations.

CATTLE MEDICINE.

ESTABLISHED MORE THAN FIFTY YEARS.

CORNER'S PINE'S DEVONSHIRE OILS

For Outward and Inward Application, is the best and cheapest remedy for any ailment Stock is liable to, and no stable, farmyard, or shepherd should be without them.

Cattle and Horses.—As an Embrocation or Drench for Bruises, Swellings, Sprains, SWOLLEN UDDERS OF COWS, the Scour in Calves, Internal and External Inflammations, Butts, &c., Wounds or Galls of any kind. WINE SIZE, 2s.

Lambing.—Invaluable to the Shepherd during Lambing, for Colds, Inflammations, Cleansing, Udder-ill, Scour, &c.

In Sheepshearing, for Cuts, Sores, or Sprains.

For the Fly and Maggot in Sheep.—Nothing can surpass their value in summer for healing the worst Sores caused by the Fly, at the same time invigorating the growth of Wool.

Sole Proprietor, RICHARD CORNER,
WELLINGTON, SOMERSET.

** Anyone vending an article purporting to be PINE'S DEVONSHIRE OILS, without his Signature on the bottle, will be proceeded against, Supplied by all Wholesale Houses, of whom Bills, Posters, and Show Cards can be had.

SCOUR IN LAMBS CURABLE BY THE DEVONSHIRE COMPOUND.

This Preparation has not been equalled for its immediate effects in checking this fatal disease in Lambs, AND IS QUITE A DIFFERENT PREPARATION to the Devonshire Oils. In Bottles, 2s. each.

TESTIMONIAL. Tedburrow, Hemlock, Oct. 23, 1861.
“Dear Sir,—The DEVONSHIRE COMPOUND you sent me I have used in six cases of Scour in Lambs, with complete success in each case; I therefore think it a useful medicine, having lost fifteen Lambs before I used the compound.”—I remain, dear Sir, yours very truly,

JOHN FARRANT.

Mr. R. Corner, Wellington.

THE BEST BLACK BEETLE AND OTHER VERMIN ERADICATOR.



CHLORIDE OF LIME, IN WATERPROOF, AIRTIGHT, & ODOURLESS PACKAGES.

Protected by Royal Letters Patent.

Is neat and clean, and convenient for use. Being airtight and odourless, retains its strength unimpaired.

It is admirably adapted for Export, and will keep for years in any climate.

In 1-lb., ½-lb., and ¼-lb. Packages, packed into 24-lb. Boxes and 50-lb. Cases, each separately, or in three sizes assorted in each Box or Case. Penny Packages, in 1-gross Boxes; also into 1-cwt. and ½-cwt. Cases, to meet the requirements of the Export Trade and large buyers.

Packed also in Jars, Bottles, Casks, and Cases to order.

The Wholesale Trade and Shippers only supplied, and a Liberal Discount given. Samples and Terms on application.

WHOLESALE AGENTS:—S. MAW, SON & THOMPSON; BURGOYNÉ, BURBIDGES & CO.; BARCLAY & SONS; W. EDWARDS & SON; LYNCH & CO.; F. NEWBERY & SONS; HARVEY, SHEPHERD & CO., JAS. WOOLLEY, SONS & CO., Manchester; EVANS, SONS & CO., Liverpool; or may be had of any other Wholesale Druggist or Shipper.

NATIONAL CHEMICAL CO., 55 PITFIELD STREET, LONDON, N.

HORSE, CATTLE, AND SHEEP MEDICINES.



By Special Warrant,
Dated 27th December, 1865.

BY ROYAL APPOINTMENT.

DAY, SON & HEWITT,

INVENTORS AND SOLE PROPRIETORS OF THE



By Special Warrant,
Dated 10th February, 1866.

"ORIGINAL" STOCK BREEDERS' MEDICINE CHESTS,

For all Disorders in Horses, Cattle, Calves, Sheep, and Lambs.

Patronised for over 40 years by Royalty, and the principal Stock Breeders, Horse Proprietors, and Agriculturists of the British Empire.

The No. 2 MEDICINE CHEST contains the following matchless remedies:—

- "CHEMICAL EXTRACT," for all External Injuries, and Ewes Lambing.
- "GASEOUS FLUID," for Colic, Scour, or Diarrhoea, and Debility.
- "RED DRENCH," for Cleansing Cows and Ewes, and for Inflammation.
- "RED PASTE BALLS," for Mares after Foaling, and Conditioning Horses.
- "BRONCHOLINE," for Husk or Hoosie in Sheep, Lambs, and Calves.
- "GASEODYNE," for Heaving and Paining, "CARMINATIVE CHALK," &c.

Price of Chest, with Guide to Farriery, £2 16s. 6d. No. 1 Complete Medicine Chest, in Polished Case; £6 6s.
Horsekeeper's Chest, No. 4, £2 17s. 6d.

CARRIAGE PAID TO ALL PARTS.

Admirably adapted for all ordinary ailments among Stock, and each preparation can be had separately. Full and easy directions enclosed.

Awarded "Certificate of Merit" by the National Agricultural Society of Victoria, Australia, Spring Exhibition, 1871; President's Medal, Spalding Show, July, 1872; Silver Medal, Manchester and Salford Show, November, 1874; Silver Medal, Preston Agricultural Show, June, 1875; Silver Medal, Northamptonshire Agricultural Society, Stamford Show, September, 1875; Silver Medal, Cheshire Agricultural Society, Crewe Show, September, 1875; Special Prize, National Agricultural Society of Victoria, Australia, November, 1875; Medal, Cheshire Agricultural Society, Cheshire Show, 1876; Silver Medal, South African Exhibition, Cape Town, 1877; Silver Medal, Northumberland Agricultural Society, Newcastle-on-Tyne Show, August, 1877; Silver Medal, Knutsford Show, July, 1878; Medal, North Berwick Show, July, 1878; Medal, Dairy Show, London, October, 1878; Silver Medal, Derby, September, 1879; Silver Medal, Wellingborough, September, 1879; and Medal, Bentham, September, 1880.

CAUTION.—Beware of low-priced Imitations, and see that the name of DAY, SON & HEWITT is on all Bottles and Packets.

Prepared only by **DAY, SON & HEWITT, 22 DORSET STREET, BAKER STREET, LONDON, W.**

And sold by Messrs. Burgoyne, Burbidges & Co., Barclay & Sons, W. Edwards, Newbery & Sons, Sanger & Sons, and all Wholesale Druggists, in London; Hood & Co., Mebourne; Kempthorne, Prosser & Co., Dunedin and Auckland; Fairthorne & Co., Launceston.

ESTABLISHED A QUARTER OF A CENTURY.
AWARDED 53 GOLD AND SILVER MEDALS BY VARIOUS AGRICULTURAL SOCIETIES.

TIPPER'S MEDICATED POWDERS,

Specially prepared for Horses, Cows, Pigs, Sheep, and Poultry. They surpass anything ever introduced, preserve health, strength, and condition, cure Coughs, Colds, Worms, &c., and are the best known preventives of disease. Will keep in any climate. Sold in 1s., 4s., 12s., and 24s. Canisters.

TIPPER'S DOG (MEAT) BISCUITS,

Keep Dogs in good condition and free from disease.

TIPPER'S LACTEAL COMPOUND,

For rearing Calves without Milk, and improving their condition.

These are the only preparations of the kind manufactured by a qualified Veterinary Surgeon.

B. C. TIPPER & SON, M.R.C.V.S., BALSALL HEATH, BIRMINGHAM.

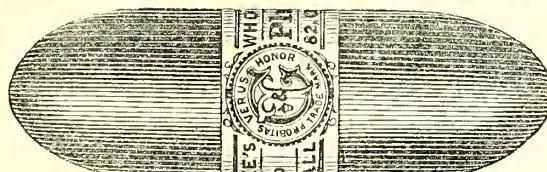
DRUGS, CHEMICALS, PHARMACEUTICAL PREPARATIONS.

GABRIEL & TROKE,

Wholesale and Export Druggists and Manufacturing Chemists,
82 CITY ROAD, LONDON.

GABRIEL & TROKE'S

REGISTERED CAPSULED HORSE BALLS,



Manufactured solely by GABRIEL & TROKE,
WHOLESALE DRUGGISTS, 82 CITY ROAD,
LONDON.

MANUFACTURERS OF ALL VETERINARY PREPARATIONS, EVERY KIND OF
VETERINARY INSTRUMENTS AND SUNDRIES.
SAMPLES AND SPECIAL QUOTATIONS FOR LARGE BUYERS.

The superior advantages of these Balls are obvious. The mass is confined in a hermetically sealed gelatinous Capsule, perfectly harmless, and immediately dissolved in the stomach. The Capsule will not only prevent the Ball from getting dry and hard, but will preserve its purity and power for any reasonable time, and ensure the effectiveness of the medicine—especially when such drugs as Camphor, Ammonia, or Essential

Oils are prescribed. These Capsuled Balls are most convenient and safe and well adapted for export, keeping good in any climate. They are put up in Boxes of 1 dozen each. Capsuled Balls of the most approved formulae on hand, and private recipes faithfully and accurately dispensed. Shipping orders promptly and carefully executed, and at lowest market prices. Price Lists of a very extensive character in the most handy referable style on application.

"HUNTER'S" INFALLIBLE VERMIN DESTROYER.

"The Best Extant."

The enormous sale last year of this old-established article, and the few specimens of testimonials below, stamp it as undoubtedly "the best extant." It is very neatly and very carefully put up throughout, and is indeed a most satisfactory article in



1d., 2d., 3d., 6d., and 1s.

Thirty-five years' Reputation.

"CANNOT BE EXCELLED."

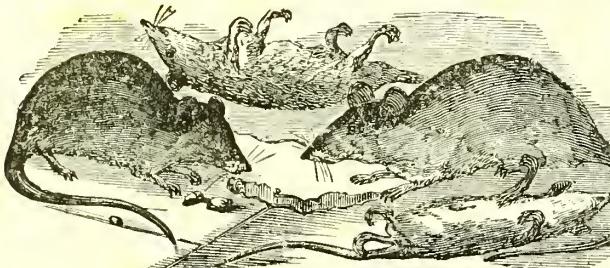
From Mr. Smith, Chemist, Glasgow:—"I have not kept any other Vermin Killer than yours for the last four years. It is the best I ever sold."

From Mr. Geo. Eagle, Merrickville, Sydney, Australia, to Mr. Mitchell, Druggist, Pitt Street, Sydney:—"Sir,—I promised to let you know how 'Hunter's Vermin Destroyer' acted. Its effect was wonderful; in one night it destroyed all the rats and mice about my house, which was swarmed with them."

From Mr. A. Billington, Chemist, Wakefield: August 28, 1878:—"Dear Sir.—Please send me a few of your Vermin Killer Registers. I can bear testimony to the deadly effect of your 'Killer,' having one night laid in my warehouse the contents of a 2d. packet, and found in the morning no fewer than forty dead mice."

Kept in Stock by all the Wholesale Houses in the Trade throughout the United Kingdom. Vide Trade Lists, &c.

LABORATORY—WESTGATE & UNION STREET, DEWSBURY, ENGLAND. BATTLE'S VERMIN KILLER.



{ Mice eat it readily, and Die on the spot.
Has an immense Sale, and wherever introduced never fails to give satisfaction.—Mice appear attracted to it as by magic, eat it readily, tumble over, and die on the spot. Rats usually die in their runs...Parties troubled with Vermin may be cleared at once, either from Stacks, Houses, or Ships.

TESTIMONIALS.—Thousands might be published.

From Mr. THOMAS COLTON, Agent for Selby.—A friend of mine purchased a Packet of your VERMIN KILLER last night, doubting its efficacy; to-day he called in to say that he had found fifteen dead mice, and had only used part of a packet.—From Mr. EDWARD STIRRY, Flemington Mills.—I duly received by post the Packet of your VERMIN KILLER, and found it as represented in your advertisement. It speedily destroyed all the mice in my granary. I enclose 2s. for two more Packets.—Leeds, November 6th, 1857.—I have tried BATTLE'S VERMIN KILLER, and have found it most effective in clearing my premises of LARGE QUANTITIES OF RATS.—THOMAS S. CROSLAND.—Mr. Stead.

Sold in Packets, 3d., 6d., and 1s. each.

SOLE PROPRIETOR:

Mr. J. R. BATTLE, Chemist, Lincoln, England.
No Chemist or Storekeeper should be without a supply.

CRAVEN'S VERMIN POISON,

For the effectual Destruction of RATS and MICE.
Guaranteed Second to None. Sale Increasing Daily.

USE CRAVEN'S VERMIN POISON,

For the efficacy of which numerous Testimonials have been received. Sample Packets Post Free. Prices, 2d., 6d., and 1s.—1s., 1s. 6d., 3s., and 6s. per dozen. Carriage Paid. Counter Bills.

F. CRAVEN, Chemist, Batley Carr.

EDWIN HELLIAR, MANUFACTURING CHEMIST, YEOVIL,

Pegs to call the attention of the trade to the following specialities, which will be found worthy of a place in the stocks of all Chemists, and the favour of an order, either direct or through the leading London Houses, will much oblige.

Fly Tick and Lear Powder, for dressing Sheep and Lambs in tins, 1/-, 2/-, 3/-
Foot Rot Paste pots, 1/-, 2/-
Condition Powders for Horses tins, 2/-, 4/-
Canino or Dog Soap 6d.
Worm Powders for Dogs 6d.
Balsam Honey for Coughs 7/-d., 1/-, 2/-
Vermin Killer 3d., 6d., 1/-

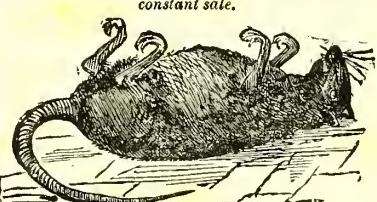
London Wholesale Agents:—HOVENEND & SONS, BARCLAY & SONS, SANGER & SON, W. EDWARDS & SON. Exeter:—EVANS, GADD & CO.

USUAL TERMS.

BARBER'S PHOSPHOR PASTE.

WRAPPED NEATLY FOR THE COUNTER.
Handsome attractive Posters supplied; if conspicuously placed will command constant sale.

Kills Rats, Beetles,
&c. THE DEAD VERMIN
DRY UP.
WITHOUT SMELL.



3d., 6d., 1s., 2s. 6d., and 5s. Tins. Also

BARBER'S VERMIN KILLER.

SOLD THROUGHOUT THE WORLD.

Kills Mice upon the spot. In packets, 3d., 6d., and 1s.
Be not deceived with worthless imitations. Observe the Name!! The VERMIN KILLER sent free by post at the following prices:

2d. 3d. 6d. 1s. Od.
1s. Od. 1s. 6d. 3s. Od. 6s. Od. .. Per Dozen.

The PHOSPHOR PASTE, at same prices. Carriage paid per rail for enclosure to any Wholesale House, or direct, for quantity of either Paste or Killer.

* Special arrangements are made for Sole Agency with Chemists.

WORKS. SALISBURY: ESTABLISHED 1848.

Special Quotations to Shippers. Supplied by all the London Wholesale Houses.

Guaranteed the best
destroying Paste in
the world.

IMPORTANT!**A SPECIALITY!**

Notice to the
English Trade.

Notice to the
English Trade.

WILL YOU BUY
**DALMATIAN
INSECT POWDER FLOWERS**
WHERE GROWN?

WRITE TO THE PRODUCER,
**JAQUES NEUMANN,
FUMÉE, AUSTRIA.**

Flowers can be supplied also ground,
but only when especially ordered.
NO ADULTERATION!

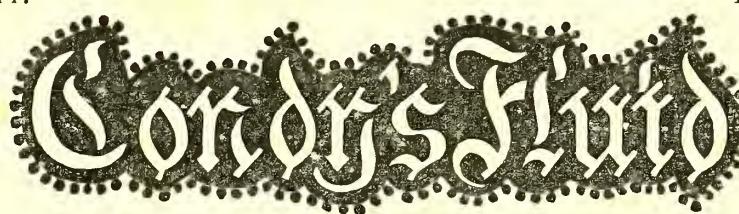
JAQUES NEUMANN,
Fiume, Austria,

Exporter of
Botanical Crude Drugs.

Established 1877.

Established 1877.

THE
CHEAPEST
OF ALL.



THE
CHEAPEST
OF ALL.

				RETAIL PRICES.	TRADE PRICES.
CONDY'S FLUID RED...	...	...	...	1s. size, 4s. per Dozen.	
" "	..."	..."	..."	2s. "	8s. "
" "	..."	..."	..."	4s. "	16s. "
"	GREEN	...	...	6d. "	3s. 6d. "
"	"	..."	..."	1s. "	7s. "
"	"	..."	..."	2s. "	14s. "
CONDY'S OZONISED WATER	...	...	2s. "	8s. "	
"	"	..."	3s. 6d. "	16s. "	

OF ALL WHOLESALE HOUSES. LESS USUAL DISCOUNTS.

R. CONDY & CO., DISINFECTING FLUID MAKERS,
FORD'S FOLLEY, LONDON, S.W.

NOTICE OF REMOVAL.

MESSRS.

**HODGKINSONS, STEAD
AND TREACHER**

Beg to inform their Friends and the Trade generally that they have removed to

198 Upper Whitecross St., E.C.

To which address they request all orders, goods, &c., may be sent.

COBDEN'S PILLS,

(QUININE & PHOSPHORUS.)

2/9 & 4/6

THE BEST NERVE TONIC

SUSSEX DRUG CO., BRIGHTON.

CASTOR OIL SHEEP OINTMENT.

The most effectual Cure of Scab, Killer of Ticks, Red Lice, and all other Parasites; also

GENUINE SHEEP OINTMENT.

Prepared by steam power, and none but the best materials being used, these Ointments are uniform in strength, and the consistency most suitable for Smearing in hot or cold weather.

Sold in Drums of 4, 7, 14, 28, 56, and 112 lbs. each.

THE "GLYCERINE" DIP,

FOR SHEEP AND LAMBS,

GREATLY PROMOTES THE GROWTH OF THE WOOL.

A certain Preventive and Cure of Scab, Destructive to Ticks, Lice, and all Parasites infesting the Skins of Sheep, Cattle, and other Animals.

PRICE -/6. LB.

Sold in Drums of 5, 10, 20, 30, 40, 50, and 100 lbs. each.

The Original "LUDDINGTON'S OILS,"

THE CELEBRATED

HORSE, SHEEP, AND CATTLE MEDICINE.

We are the Sole Manufacturers of this Medicine, and will at once commence Legal Proceedings against anyone copying our Trade Name, Labels, &c.

In Bottles, 2s. 6d., 5s., and 10s. each.

PRICE LISTS ON APPLICATION TO

TOMLINSON & HAYWARD,
Manufacturing Chemists, LINCOLN.

Agents required in every Town. Hand-bills, Pamphlets, Posters, Show Cards, for these and their other Preparations—BUTTER POWDER, "GRANULAR BROWNING," DANDELION COCOA—supplied on receipt of Trade Address.

THE NEW SEAMLESS TIN BOXES,

In Crystallised, Decorated, or Plain Tin Plates, suitable for Blacking, Polishing Paste, Tooth Powder, Plate Powder, Pomade, Lozenges, &c., &c.

SPICE AND BISCUIT BOXES, COFFEE, MUSTARD, AND POWDER CANISTERS.

LIQUID PAINT TINS, &c.

C. SMITH & SONS, ARUNDEL WORKS, SHEFFIELD.

SILVER MEDAL,



PARIS, 1878.

THE

**Tin-Plate Decorating Co.,
MANUFACTURERS OF THE NEW
CRYSTALLIZED TIN BOXES,
FOR TOILET AND OTHER PURPOSES.**

GOLD MEDAL,



SYDNEY, 1879.

SEAMLESS DECORATED TIN BOXES,

Suitable for Blacking, Polishing Paste, Tooth Powder, Pomade, Pills, Lozenges, &c.

DECORATED TIN CANISTERS,

For Disinfectant Powder, Baking Powder, &c., &c., &c.

WORKS: NEATH, SOUTH WALES.

IMPORTANT TO CHEMISTS.

GREAT REDUCTION.

SEABURY & JOHNSON

HAVE REDUCED THE PRICE OF THEIR

INDIARUBBER POROUS STRENGTHENING PLASTERS
To £1 10s. per Gross.

CAPSICUM POROUS PLASTERS to £2 per Gross.

SUBJECT TO USUAL DISCOUNT.

PHYSICIANS, Chemists, and Druggists will have the kindness to bear in mind that we manufacture but **ONE QUALITY** of Medicinal and Surgical Plasters. When a Physician prescribes an officinal preparation he invariably expects this article to be of Pharmacopœia strength. To depart from established formulae, or to cheapen medicinal preparations by the introduction of inferior drugs or extracts, is simply reprehensible. Such preparations not only baffle the acknowledged skill of Practitioners, but also reflect disadvantageously the judgment and intelligence of the Dispensing Pharmacist or Druggist. It has never been our aim, and never will be, to calculate how cheap we can produce a suspicious class of medicinal articles.

The extensive demand, united with our unequalled facilities for the economical production of our Specialties, enables us to offer the best quality of *elegant and unimpeachable goods at exceptionally low prices*. They are uniformly made of purified indiarubber, selected drugs, and are incorporated with an unquestionable quality of medicinal extracts. Every Pharmacopœia article is warranted to be of proper strength, and guaranteed to give entire satisfaction.

SPECIAL NOTICE.

Our NEW CATALOGUE OF SPECIALITIES is ready for delivery, and contains a complete assortment of our Indiarubber, Porous, and Spread Pharmacopœia and Surgical Plasters and Antiseptic Dressings. A copy will be sent to any Chemist on application to

Yours very truly,

SEABURY & JOHNSON,
1 & 2 AUSTRALIAN AVENUE, LONDON, E.C.

RECEIVED HIGHEST AWARDS, GOLD & SILVER MEDALS, OVER ALL EUROPEAN AND AMERICAN COMPETITORS.

Philadelphia, 1878.

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POROUS PLASTERS.

Packed 2 dozen in a box. Size 5 x 7½ inches.

Aconite per gross £3 0 0	Galbanum per gross £3 0 0	Pitch, Burgundy per gross £2 8 0
Aconite and Belladonna " 3 12 0	Galbanum Comp. " 3 0 0	Pitch and Cantharides " 3 0 0
Arnica " 2 8 0	Hemlock " 3 0 0	Poor Man's " 2 8 0
Belladonna " 2 14 0	Iron " 2 8 0	Strengthening " 1 10 0
Benson's Capsicum ... " 4 16 0	Opium " 3 12 0	Sumach—Rhus Toxicodendron 3 12 0
Bryonia... " 3 12 0	Opium and Arnica " 3 12 0	Warming " 3 0 0
Calendula " 3 12 0	Opium and Belladonna " 3 12 0	Witch Hazel " 3 0 0
Capsicum " 2 0 0	Opium and Iodine " 3 12 0	Roborans " 2 8 0

Special Formulae made to order. Plain Spread and Porous at same rates.

YARD ROLLS.

Pharmacopœia and Medicinal Plasters, in Rubber Combination, Porous or Plain Spread.

Size, 7 inches wide by 1 yard long.

Aconi ^t e per doz. £1 7 6	Mead's Corn and Bunion Plasters, Medicated, per dozen, 8s.	Mead's Adhesive Strips, ½ inch, per doz. £0 14 0
Arnica " 1 7 6	Corn and Bunion Plasters, Round, Square, and Oval, all styles, thick and thin.	Mead's Adhesive Strips, 1 inch, per doz. 0 16 0
Belladonna " 1 7 6	Court Plasters, 49 different styles, elegant and balsamic. A full Line.	Mead's Adhesive Strips, 2 inch, per doz. 1 4 0
Blister, Causticardia " 1 7 6	Salicylated Indiarubber Adhesive Plaster, Porous or Plain Spread, on Strong Cotton Cloth or Twilled Linen.	Also in Special Widths to order.
Capsicum " 1 7 6	Breast Plasters, Belladonna, Lead, or Phytoalcea Decandra, 6 inches and 8 inches in circumference.	Mustard Plasters, in yard rolls, per doz. 0 10 0
Mercurial " 1 16 0	Mead's Adhesive Plaster, Pliable and Antiseptic, 1-yard rolls, per doz. 0 6 0	Mustard Plasters, in ½-yard rolls, per doz. 0 10 0
Opium .. " 1 16 0	per doz. £0 14 0	Mustard Leaves, 10 in tin, " 0 10 0
Thapsia, French Formula " 1 8 0	Mead's Adhesive Plaster, in 5-yard rolls, per roll 0 5 0	Mustard Envelopes, 6 in paper, per doz. 0 6 0

A full Line. Porous and Plain Spread at same rates. Special Formulae made to order.

Silver Medal,
Paris, 1878.

ALLEN & HANBURY'S' PURE COD LIVER OIL

Highest Award.
Philadelphia, 1876.

N.B.—This Oil is made from fresh and selected livers at our own Factory at Longva, Norway. We can therefore guarantee its absolute purity, also that it will remain bright at a temperature of 32° F.

In Half-gallon Winchesters and in Stone or Tin Bottles, and in 25-Gallon Tin-lined Casks. Samples and Prices on application.

N.B.—The "Perfected" Cod Liver Oil is sold ONLY in capsules bearing Allen & Hanbury's signature, and is a totally distinct article from the above.

CHRISMA, BASIS FOR POMADES AND OINTMENTS.

In 1-lb. Tins, at 11d. per lb.; in 7-lb., 14-lb., and 28-lb. square screw-capped Canisters, at 10d. per lb.; in 56-lb. and 112-lb. square screw-capped Canisters, at 9d. per lb.

SILVER MEDAL,
PARIS, 1878.

REVISED PRICE LIST OF
JUJUBES.

PREPARED BY PATENT PROCESS.

A. & H.
TRADE MARK.

A.D. 1715.

	1-lb. size.	1/- size.	6d. size.		1-lb. size.	1/- size.	6d. size.
ANISEED LIQUORICE	Per doz.	Per doz.	Per doz.		Per doz.	Per doz.	Per doz.
BLACK CURRANT	30/-	8/-	4/-		32/-	8/6	4/4
DELECTABLE	"	"	"		"	"	"
EXTRACT OF MALT.....	"	"	"		"	"	"
GLYCERINE.....	"	"	"		"	"	"
LICHEN	2/-	"	"		2/2	"	"
LIQUORICE	"	"	"		"	"	"
MAGNUM BONUM	PER LB.,	"	"		PER LB.,	"	"
PECTORALE.....	"	"	"		or in tin	"	"
PINE (Pâte de Jujube).....	or in tin	"	"		boxes.	"	"
RASPBERRY	"	"	"		boxes.	"	"
ROSE	"	"	"		"	"	"
TAMARIND	"	"	"		"	"	"
VIOLET	"	"	"		"	"	"
VOICE.....	"	"	"		"	"	"
All the above tins are neatly wrapped ready for sale. The One Pound Tins are returnable at 6/- per dozen.							
GUIMAUVE, cut into Cubes	2/6	36/-	8/-	not supplied			
GUIMAUVE PASTILLES	PER LB.						
GUIMAUVE SHEETS.....	2/-	PER LB.					

GUIMAUVE PASTILLES (Crystallized).....2/6 per lb. } The two can be
(Rose)2/6 per lb. } had mixed.
CRYSTALLIZED FRUIT PASTILLES2/- per lb. } Various assorted
CRYSTALLIZED VOICE JUJUBES2/- per lb. } or mixed.

PECTORAL FRUIT PASTILLES.

(Registered.)

A bronchial and pulmonic Jujube of delicious flavour.

Sold only in round boxes, to retail at 1/-, 1/9 and 3/- each; 9/-, 16/-, and 27/- per dozen.

MEDICATED THROAT PASTILLES.

Prepared as originally suggested by Dr. PROSSER JAMES.

" Being of a soft consistence and ovoid shape, are better suited for tender conditions of the mouth than the hard angular lozenges commonly in use."—*British Medical Journal*, September 18th, 1880.

" They are well adapted for sensitive patients, and, indeed, as 'elegant preparations' leave nothing to be desired."—*Lancet*, March 19th, 1881.

- 1.—**Morphia.** ($\frac{1}{40}$ of a grain.)
- 2.—**Ipecacuanha.** Are readily taken by children. These Pastilles are of the same strength as the B.P. lozenges.
- 3.—**Morphia and Ipecacuanha.** ($\frac{1}{40}$ grain Morph., and $\frac{1}{4}$ grain Ipecac.)
- 4.—**Compound Morphia and Ipecacuanha.** A more active remedy than No. 3. ($\frac{1}{40}$ grain Morph., $\frac{1}{8}$ Ipecac, $\frac{1}{8}$ Squill, &c.)
- 5.—**Opium and Belladonna.** An agreeable substitute for the Troch. Opii B.P., and of the same strength.
- 6.—**Aconite.** Each Pastille equivalent to half a drop of the B.P. Tincture.
- 7.—**Compound Camphor or Voice.**

These Pastilles are supplied in 1-lb. Bottles at 36/- per dozen, the Bottles returnable at 6/- per dozen; and in Boxes containing three ounces to retail at 1/- each; 8/- per dozen.

Circulars showing Doses, &c., for distribution amongst Medical Men, supplied on application.

ALLEN & HANBURY'S,
PLough COURT, 37 LOMBARD STREET, LONDON, E.C.

GENERAL LIST OF DRUGS, CHEMICALS, &c., POSTED FREE ON APPLICATION.